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Address.

A REVIEW OF CURRENT PEDIATRIC LITERATURE.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

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OMAHA.

For the honor of being elected Chairman of this Section I am deeply grateful, and again thank you most sincerely. It has been my earnest effort during the year to interest members in this Section and enlarge its sphere of influence commensurate with its importance. I am deeply grateful to the members of the Executive Committee for their valuable advice and timely suggestions.

It is with pleasure that I acknowledge my indebtness to the Secretary, Dr. Frank X. Walls. I thank him most sincerely for his hearty co-operation and many valuable suggestions. The program now before you is sufficient evidence that he has discharged the duties of his office faithfully and with ability.

RECOMMENDATIONS.

The following recommendations are offered for your consideration: First. I renew the recommendation Dr. Tuley made in 1899, that a committee on necrology be appointed, and suggest that this committee consist of three members appointed for one, two and three years respectively. This will make the committee continuous and some of the members will be constantly in touch with the interests of the Section. It is only just to those who have contributed to the welfare of this Section that when their life's work is ended some recognition be accorded to their memory. Such recognition would also be an incentive to members to take an active part in the work of the Section.

Second. I believe it would increase the interest and welfare of the Section if we had a permanent list of members, and suggest that all those who are members of the American Medical Association, and who have registered in this Section for two consecutive years, have their names and addresses printed in the volume of the annual transactions. This would encourage members to register in this Section, and I am certain it would be a great benefit to the officers of the Section. It would relieve them of the humiliation of inviting those to contribute who, not being members of the American Medical Association, are not eligible to participate in its deliberation.

Third. It would certainly enhance the welfare of the Section if there were more of a community of interest between those who attend its meetings. As it is, we meet for three or four days in the year and then return to our homes in widely dispersed parts of the country. Our private work so fully occupies our time that no consideration is given to the Section until the next meeting. If some work could be carried on during this interim, whereby the attention of the members would be called to the affairs of the Section, it would certainly be advantageous. To this end I would recommend that a committee be appointed whose duty it would be to conduct a collective investigation on certain scientific subjects. You are all aware of the splendid results accomplished by the American Pediatric Society; that our knowledge of scorbutus and the use of antitoxin have been largely enhanced as a result of their labors. Similar investigation conducted by members of this Section would in no way be antagonistic to the work of that splendid organization. In addition to the valuable information obtained, such work would have the distinct advantage of centering the interest of the members in this Section. The serious objection that might be urged is that the work would involve a considerable outlay of money. However, as the end would justify the means, I have no doubt that some way of providing the necessary funds could be devised.

INDEX OF CURRENT PEDIATRIC LITERATURE.

In compliance with Section 4, Chapter IX, of the Constitution, I present briefly for your consideration a short review of the current pediatric literature. The source of my information in looking up this literature was the index medicus published in the *Medical Review of Reviews*. There were many papers in other departments, dealing in a large measure with pediatric subjects. These I have not taken into account in my review. There have appeared during the year 477 articles in medical journals published in this country alone on distinctly pediatric subjects. Of this number I have read 200 articles in full; of the remaining 277 I have read abstracts as they appeared during the year in a number of the leading medical journals. These articles I have classified as carefully as possible.

GASTROINTESTINAL DISEASES.

On diseases of the digestive organs there were 62 papers, a large number dealing with summer diarrheas. That which impressed me most in this series was the practicable unanimity of the authors, both as to the cause and treatment of this important group of maladies. Some of these papers were valuable because they gave results of treatment in a large series of cases. The rise and progress in our knowledge of intestinal infections is graphically illustrated in the presidential address of Dr. Booker before the American Pediatric Society. It is

remarkable, but true, that almost our entire knowledge has been acquired within the last twenty-five years. As a result of the clearer knowledge and greater interest in this class of diseases, thousands of lives are now annually saved. The principles of treatment are now so well established that they have become a common property of our profession. Indeed, the means of prevention are now so largely known among the laity that these diseases are becoming less frequent. On the subject of treatment I could not fail to note that less dependence is placed on the use of drugs than in former years. It was apparent in the entire series of papers. It is also evident that greater reliance is placed on the application of hydrotherapy in the treatment of this entire group. The various methods of applying water and the objects to be attained in its use were clearly set forth in some of the papers.

There were five papers on the subject of appendicitis. The youngest case reported was that of an infant of three months. It is doubtless true that appendicitis is more rare in infants than in children or adults. The possibility of its occurring even in the very young should not escape our attention. Dilatation of the stomach in bottle-fed infants was alluded to in several articles.

That this condition is the result of food lacking in nutritive elements is well established. There were papers on constipation, intestinal sapremia, vomiting and indigestion. It is coming to be more fully realized that indigestion is usually a result of improper feeding.

INFANT FEEDING.

On the important subject of infant feeding there were 28 articles. Some of these were of the highest order. The year's literature on this subject is most satisfactory, showing important advancement in our knowledge and a wider appreciation of the importance of careful scientific study of this subject. I am convinced that erroneous impressions prevail among many members of our profession concerning the real knowledge on this subject. There are those who believe that infant feeding is in a chaotic state. That the authorities are widely at variance among themselves, and that consequently it is not worth while to give the subject careful study. It is unfortunate that such an impression prevails. It would have been well if every physician had read this series of articles, because a careful reading of them would have convinced any candid physician that such an impression is entirely erroneous. The differences of opinion are on minor matters, and are only such as naturally obtain among independent, original investigators, and do not affect the most important principles. This subject is so important that at the expense of mentioning matters entirely familiar to you all I will briefly state the important phases of the subject on which there is an entire unanimity of sentiment, as established by this series of papers:

1. Cow's milk is now recognized as the universal substitute for human milk.

2. The necessity of procuring more wholesome milk supply, including the care, feeding and housing of the cow, cleanliness in milking, bottling and transporting of the milk.

3. That contaminated milk can not be made pure and wholesome by any process known to science. This important fact, now generally recognized by original investigators, is not duly appreciated by many physicians.

4. That infants differ in their ability to digest food, and that each one requires special study. It is just here that the question of judgment and accurate knowledge is essential to success.

5. That milk should be modified in order to adopt it to the needs of the infant. On details of modification there are differences of opinion, but these differences are on minor matters. I could not fail to note that even in these minor details there was a greater unanimity of opinion than I had supposed. I think the false impressions on our real knowledge of this subject are the results of the fact that some discussions on it have been sharp and acrid, but I repeat that these discussions were not on well-established principles, but on minor details. The advance in this field of pediatrics within the last ten years is nothing less than marvelous, and should be highly gratifying to all those who are giving the subject careful attention. It is probably only just to state that the advance has been largely the result of the work of investigators of our own country. I venture the assertion that in no field of medicine or surgery have the results of increased knowledge been of greater benefit to mankind in the actual saving of life than in the domain of infant feeding.

In view of the fact that during the year there was almost no literature on the subject of breast feeding, the question suggested itself to me whether or not this subject was being neglected. In improving the method of bottle feeding, are we not in danger of neglecting the subject of normal lactation? The responsibility of the physician in this matter is very great. His counsel is usually sought and his advice generally accepted. The important question suggests itself: What is his moral duty? This question is rightly within the province of this Section. I leave it with you for further consideration.

THE INFECTIOUS DISEASES.

Infectious diseases received consideration in 82 articles. Forty-five of these were on the subject of diphtheria. The knowledge of the profession as a whole on this disease is probably more complete than on any of the other acute diseases. I believe this is due to the comparative large volume of current literature on the subject. The papers during the year have not, as far as I could discover, developed anything new, either in pathology or treatment, but rather have made the existing knowledge more clear and widely disseminated, and have established the specific treatment more permanently.

On the treatment of diphtheria by antitoxin there is an almost unanimity of sentiment. I found but two arguments against the efficacy of this remedy. They were, first, that many cases were now diagnosed as diphtheria that formerly passed under some other name, and, second, that diphtheria is a milder disease than in former years. In view, however, of the experience of a large number of observers who have treated the disease for many years, these arguments have very little weight. I did not find in all these papers the record of a single death attributed to the use of this remedy. Two most enthusiastic articles on the efficacy of antitoxin were in homeopathic journals. This is certainly a triumph for rational scientific medicine and heralds the dawn of better days. The perusal of these articles demonstrates the following facts: The use of the remedy at the earliest possible moment, its repetition within a few hours, if appreciable benefit is not received, and the injection of larger doses than were recommended a few years ago.

Frequently I find that the term membranous croup is still implied to designate a condition other than diphtheria. It is unfortunate that there are physicians

still in active practice who fail to realize that acute laryngeal stenosis is usually diphtheritic in character. At this day, in the light of modern science, it is almost criminal that physicians should permit children to die of suffocation without giving them the benefit of antitoxin.

Scarlet fever received consideration in 18 papers. The most important additions to current literature of this disease were the contributions of Dr. Class of Chicago. It seems probable that the organism causing this disease has been isolated. At any rate, his work is valuable and is worthy of emulation. The diagnosis of the milder type of scarlet fever received some attention. These cases require careful scrutiny. A thorough examination of the throat is important in differentiating milder scarlet fever from cutaneous rashes due to other causes. There are a few reports of the use of serum in septic cases. There was one able paper on the importance of the careful treatment of the nasopharynx in the cases with severe angina. Middle-ear complications are now generally recognized, but the operation of paracentesis does not receive sufficient consideration. The relation of scarlet fever to diphtheria is still under discussion. The weight of opinion is that the membranous sore throat of scarlet fever is seldom due to the diphtheria germ. Reports indicate that scarlatinal nephritis is usually the sequel of mild cases of the disease.

There were 14 papers on the subject of measles. I noted the frequency with which measles is associated with some other acute disease. There can be no question of the value of the Koplik spots in diagnosis of measles in the prodromal stage. I have recently had the opportunity of observing measles during the recent epidemic in my city, and had frequent opportunities of making the proper diagnosis two or three days before the appearance of the eruption. The most frequent and serious complication of measles is catarrhal pneumonia. Laryngitis, causing severe stenosis, was several times mentioned, and, indeed, some cases reported. Otitis media as a complication of measles was several times mentioned. The importance of this complication is not duly appreciated. A few cases of severe nasal hemorrhage were mentioned. The most important fact brought out in these papers on the treatment of this disease was the necessity of care during the prodromal stage.

There were eight papers treating of the subject of whooping cough. The frequency of the association of whooping cough with measles was noted in more than one paper. The mortality in whooping cough is in direct proportion to the age. I noted the report of one death due to cerebral hemorrhage, two cases of subconjunctival hemorrhage and one case of hemorrhage from the ear. Of the remedies used in controlling this disease antipyrin received the most consideration. In one article a series of cases were reported as being controlled by the introduction of carbonic acid gas into the bowel. The results of this treatment were most gratifying. The number of cases, however, was not sufficiently large to admit of any positive conclusion being drawn.

There were three articles on chicken-pox and two on smallpox. These articles were valuable in demonstrating the distinction between these two diseases. Both papers were based on the study of a large number of cases in institutions where careful observations were possible. In both reports the greater number of the children had previously had chicken-pox. The period of incubation was accurately determined in a number of cases, the length of this period being three days. The prodromal symptoms of smallpox, as noted in these papers, did not differ from those in adults. The subject of vaccination received almost no attention. In view of the prejudice among the laity against vaccination the importance of care in this operation is very great. I fear that much of the prejudice is the result of carelessness among physicians.

RESPIRATORY DISEASES.

On diseases of the respiratory tract, including pneumonia, bronchitis, asthma and empyema, there were 31 articles. It is manifest from this series of papers that secondary pneumonia in infants is the most serious and fatal disease of childhood. The literature on the bacteriology of pneumonia was meager and confirms what is already known that it is usually a mixed infection. Further research in this direction is needed. The diagnosis of catarrhal pneumonia is often difficult. Dependence must be placed on the general symptoms as well as the physical signs. On the treatment of this important disease the following statements can be safely made as conveying a sentiment of the writer: Supporting treatment, including the use of alcoholic stimulants and careful attention to the diet. The tendency to the use of local applications is less than in former years. The remedies most frequently recommended are strychnia, digitalis and steam inhalation. Judging from the literature empyema is frequently overlooked. In any pneumonia going beyond the fourth week careful examination of the chest should be made for a possible empyema. When this condition is present, prompt surgical treatment is always indicated. As to the cause of asthma two theories are advanced, one, that it is a neurotic element, the other is that it is due to uric acid diathesis.

TUBERCULOSIS.

On the subject of general tuberculosis there were 17 articles, not including those on the surgical treatment of tubercular affections. The most valuable papers of this group were those treating on the early symptoms. It seems entirely probable that there is a condition of ill health preceding the gross manifestations of tubercular lesions, and that it should be the effort of the physician to recognize this condition. The importance of glandular tuberculosis and its careful diagnosis is not as yet fully appreciated. The question of the infections of the infant by means of cow's milk is yet an open question. The drugs most frequently recommended were guaiacol and iron. On the general treatment, the important factors are the improvement of nutrition by means of proper foods, fresh air and sunshine.

MALNUTRITION DYSCRASIAS.

On the general subject of diseases of nutrition there were the following: Rachitis, 7; scorbutus, 13; marasmus, 6; cretinism, 5; anemia, 4. Our literature on this important group of diseases is meager. There is here a field for missionary work. Without doubt many cases of scorbutus, for want of more widely diffused knowledge, go astray under some other name. A correct diagnosis is more important than in most diseases of infancy, because of the fact of its prompt response to proper treatment. The results of the splendid work of the American Pediatric Society on these diseases are not as generally known as they should be. There were some good papers on the early symptoms of rachitis. It is entirely probable that this condition is caused by foods lacking in fats. The influence of the race as a predisposed cause is well established. Cretinism deserves further study at

your hands. A collective report on this condition would be of very great value.

TYPHOID FEVER.

There were 11 articles on this subject of typhoid fever in children. The literature on this disease is interesting and instructive and includes a considerable amount of original work. The value of the Widal test in the diagnosis of typhoid fever is valuable and its employment in a large number of cases will yield practical results. The conclusion drawn from this literature is that typhoid fever is mild in the infant and that there are fewer complications, consequently the prognosis is better than in the adult.

THE BLOOD AND THE NERVOUS SYSTEM.

On the diseases of the nervous system there were 25 articles. The strictly pediatric literature on this important subject impressed me less favorably than any of the other groups. This is a department of pediatrics requiring careful study and more accurate observation. The limited number of papers on so important a disease as chorea will indicate that the subject does not receive the attention its importance demands. The most valuable lesson derived from this series of papers was the relation between anemia and nervous diseases. In a paper on the subject of hydrocephalus I was impressed with the treatment suggested. This consists in the gradual withdrawal of the fluid and at the same time the introduction of sterilized air. Any treatment that offers a hope of benefit in this condition is worthy of further trial.

There were six articles on the blood. These were, without exception, valuable papers. I call attention to this series because investigations in this line indicate a promising field. As far as I could ascertain the number of examinations of the blood in health and disease is yet too limited to permit of positive conclusions being drawn. This is an inviting field of research for the young physician with a modern education. A large series of careful observations will necessarily lead to the accumulation of practical knowledge.

OTHER DISEASES.

On diseases of the newly born there were 31 articles, including papers on ophthalmia, icterus, hemorrhage, tetanus, sepsis and developmental defects. This was an interesting group of papers on a subject receiving scant consideration from many in our profession. I am convinced that a careful investigation of the subject of causes of death of the newly born would yield practical results.

There were 25 articles on diseases of the genito-urinary system. The most striking fact ascertained from these series of papers was that the operation of circumcision is coming more and more into favor. There were a number of papers on enuresis. I am convinced that the treatment of this condition is in many cases unsatisfactory, and that it is a symptom indicating some general defect, rather than any local lesion.

Surgical pediatrics received consideration in 25 articles. This is a small volume of literature when we consider the number of operations indicated in infancy. There were two interesting papers on the subject of spinal anesthesia. The objection to this method of anesthesia in adults is that the patient is conscious of what is going on about him, and, while relieved of physical suffering, he endures mental anguish. This objection does not have the same force in infancy. Again, there were a few cases reported of infants suffering from pneumonia, in whom general anesthesia was contraindicated, and who were operated on safely and without pain by means of spinal anesthesia. This important and humane field of pediatrics is well worthy the careful study and attention of physicians.

There were 84 articles on a large number of miscellaneous subjects. For lack of time I shall not make any comment on this group.

THE IMPORTANCE OF PEDIATRIC LITERATURE.

Viewing this mass of current pediatric literature as a whole it indicates growth and increased interest in the diseases of children. However, it is my deliberate judgment that it is not up to the standard of the current literature in other branches of medicine. Current medical literature is exceedingly important for many reasons, especially because it has more influence in molding public sentiment than standard text-book literature. The busy physician will read his medical journal when for want of time he will not study standard text-books. It is essential, therefore, that current medical literature shall be of the highest order and shall embody the best thought of the profession. Pediatric literature covers a wide field; it touches all branches of medicine, both scientific and practical. It is of equal importance from every point of view with the literature of any other branch of medicine. On those interested in pediatrics rests the responsibility for the quality of the literature. I therefore urge on the members of this Section the necessity of recognizing their duty in this respect. Your sense of pride as well as your desire to be useful in your profession require that you do your part in extending and enlarging the volume and improving the quality of current pediatric literature, so that it shall at least equal, if not excel, the current literature in other branches, in literary excellence, in clinical observation and in original research.

Original Articles.

A CRITICAL REVIEW OF 416 CASES OF APPENDICITIS

OPERATED ON IN THE GERMAN HOSPITAL, PHILADELPHIA, IN 1901.*

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GENERAL STATISTICS.

There were operated on during the year 1901 in the German Hospital and the children's wards of the Mary J. Drexel Home 416 cases of appendicitis.[1] Of this number there were 279 acute cases, of which 238 were adults and 41 children, under twelve years of age.

There were operated on 137 cases of chronic inflammation of the appendix, of which 134 were adults and 3 children. The mortality in acute cases in adults was 37, or 15.5 per cent.; in children there were 6 deaths, or 14.6 per cent.: making a total death rate in acute cases operated on of 15.3 per cent. This list includes one child who died three months after operation from purulent peritonitis and septic nephritis with uremia; one who died on the table of ether shock, having had general purulent peritonitis at time of operation. The mortality statistics will be considered later and for the present we will take up a consideration of the entire number of cases.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. The statistics of this paper were compiled by Dr. Geo. P. Müller, house surgeon German Hospital.

There were 137 chronic cases with one death, a mortality of 0.7 per cent. This death was the result of an acute intestinal obstruction. The obstruction was caused by a loop of small bowel becoming engaged in a rent in the mesentery. These figures speak for themselves and demonstrate beyond question the possibility of removing the appendix at the opportune time with practically no mortality.

ETIOLOGIC FACTORS.

Sex.—In adults, in the acute cases, males were the subject of the disease in 145 cases and females in 83 cases. In children there were 31 males and 10 females.

Age.—The ages of patients at the time of attack were as follows: 1 to 10 years, 23 cases; 10 to 20, 72; 20 to 30, 102; 30 to 40, 49; 40 to 50, 21; 50 to 60, 8; 70 to 80, 1; not noted, 3, the youngest patient being 4 years and the oldest 77.

Gastro-Intestinal Disturbances.—In 86 cases there was a history of some digestive disturbance, usually dyspepsia, prior to the initial attack of appendicitis. Constipation occurred in 162 cases, diarrhea in 36, normal bowels in 67, not noted in 13, vomiting in 191, nausea in 15, absence of nausea or vomiting in 62, not noted in 12.

COMPLICATIONS.

Tumor.—A mass in the right iliac fossa was demonstrated clinically in 104 cases.

Sepsis.—Pus infection with abscess formation was encountered in 174 cases as follows: Post-cecal, adults 29, children 12; right iliac fossa, adults 35, children 1; pelvis, adults 20, children 14; and in the following found only in adults: outer side of cecum 21, free pus (not confined) 18, in appendix only 13, to median side of cecum 2, free cloudy serum 4, sub-hepatic 3, multiple 1, extraperitoneal 1.

Adhesions.—These were encountered in 189 instances, 155 adults, 34 children.

Necrosis.—This occurred as follows: Appendix, adults 75 cases, children 31; cecum only, adults 4, children 1; small bowel, adults 1; cecum and appendix, adults 7; mucous membrane of appendix alone, 4; semi-gangrenous condition of appendix and cecum, 22; total, 145 cases.

Perforation.—There was perforation as follows: Appendix, adults 41, children 32; cecum, adults 3; appendix sloughed from cecum, adults 8; total, 84 cases.

Attention is drawn to the fact that in 299 acute cases pus was encountered 174 times; necrosis of the appendix, cecum or small bowel, 145 times, and perforation 84 times. Are not these figures a convincing argument against delay in operating on this really terrible disease? If they are not, then stop and think that 15.3 per cent. died as a result of a continuance of the acute inflammation while 99.3 per cent. of those operated on at a time of election recovered, not only from future attacks, but from the disease.

Peritonitis.—Local, adults 104 cases, children 4; general, adults 25, children 23. In 11 adults the general infection was purulent and all of these died. It will thus be seen that a general infection, while much more common in children than in adults, is not nearly so fatal, probably due to a higher resisting power of children to peritoneal infection, a fact that is true in other forms of infection in other localities.

Drainage.—In 154 cases drainage was used, gauze wicks, glass tubes and rubber tubes being the three methods employed.

Appendicectomy.—The appendix was removed in 269 cases, was not removed in 7, and had sloughed off from the cecum in 3.

Intestinal Obstruction.—Post-operative obstruction occurred in 10 cases, of which 4 recovered from a second operation and 6 died. In 9 of the 10 cases the obstruction was due to the adhesive inflammation in the right iliac fossa, which continued to be active after the removal of the organ and the breaking up of the existing adhesions. In the tenth case it was due to accidental causes; the wound, which had been closed with layer sutures of catgut, was forced open by a violent fit of coughing. While attempting to replace the protruding bowel, infection was introduced and the patient promptly developed peritonitis and obstruction, causing his death. It is a very fatal accident, as these figures show 6 of the 10 dying as a direct result; a mortality of 60 per cent. The condition was recognized very early in every instance and operation instituted at once, but with the above result. These facts lead us to believe that the early operation in the primary attack is, after all, the safest procedure.

Fistulæ.—Fecal fistula appeared in 11 cases, 3 on the fifth day, 1 on the sixth day, 1 on the seventh day, 1 on the thirteenth day, 1 on the seventeenth day, and in 4 the day of appearance was not noted. Four cases closed spontaneously, one was operated on and recovered, 6 cases left the hospital with fistula, one of which returned during January, 1902, was operated on and discharged from the hospital, recovered. All of these were in late cases, where the intensity of the highly destructive inflammation resulted in gangrene of the cecum or neighboring bowel and made the false passage inevitable. In one case, a man operated on late in the attack, there was an opening in the posterior wall of the cecum, the edges of which and a surrounding area of cecal wall one inch in diameter were gangrenous and would not hold the stitches. The man, however, did not develop a fistula, evidently due to the fact that the opening, which was in the posterior wall of the cecum, came in contact with the posterior layer of the peritoneum covering the right iliac fossa and there became adherent. That four of the cases healed spontaneously can hardly be offered as a valid reason for waiting until the structures involved in the inflammatory area are in such a state of pathologic decomposition that unhappy results become almost inevitable.

TIME OF OPERATION.

Of the cases operated on, a large percentage gave a history of being admitted during the first attack; however, over 80 gave a history of attacks of indigestion or more or less persistent digestive disturbances, with constipation or irregularity of the bowels associated with pain. It is impossible to arrive at a definite knowledge of the importance of these intestinal troubles, and just what relationship they bear to attacks of appendicitis. It is fair to presume, however, that a good proportion, if not the majority, have had previous attacks, probably mild and transitory, but none the less real attacks. This presumption is based on the fact that patients and frequently family physicians do not recognize early attacks, particularly if they be mild and transitory in character, passing them by as attacks of bilious colic, dyspepsia, etc.

Time Between Onset and Operation.—The time elapsed between onset of attack (acute) and time of operation is as follows: 5 hours in 2 cases, 8 in 2 cases, 12 in 5 cases, 14 in 1 case, 16 in 2 cases, 18 in 2 cases,

20 in 1 case, 24 in 18 cases, 30 in 1 case, 36 in 4 cases, 40 in 35 cases, 50 in 1 case, 3 days in 29 cases, 4 in 25 cases, 5 in 18 cases, 6 in 12 cases, 7 in 29 cases, 8 in 9 cases, 9 in 5 cases, 10 in 13 cases, 11 in 5 cases, 12 in 4 cases, 14 in 24 cases, 19 in 1 case, 3 weeks in 11 cases, 7 in 1 case, 8 in 1 case, 10 in 1 case, 6 months in 1 case.

MORTALITY STATISTICS.

There were thirty-seven deaths from acute appendicitis in adults during 1901, a mortality of 15.5 per cent.; 34 were males and 3 were females. The age varied from 14 to 77 years, averaging 34 years. In decades there were from 14 to 25 years 15 cases, 25 to 40 years 11 cases, and 40 to 77 years 11.

Previous Attacks.—11 cases were in the initial attack, 7 had 1 previous attack, 2 had 2 previous, 4 had 3 previous, 10 had several previous, and in 3 cases the number of attacks was not stated.

Of the fatal cases which were operated on in the first attack there are several important facts to be noticed. In one case the death was attributed to the accidental breaking open of the wound and subsequent intestinal obstruction and peritonitis. In another case, operated on within twenty-four hours, there existed at the time of operation a general purulent peritonitis. The other cases had been ill with the disease from forty-eight hours to two weeks. All but one had abscess and most of them necrosis. The one exception was the patient who died on the sixteenth day after operation of uremia. Another had in addition to an appendiceal abscess, a carcinoma of the cecum.

PREVIOUS DISEASE AND FAMILY HISTORY.

In two cases there was a family history of phthisis. Case 14 had scarlet fever one year previous to the appendicitis attack, accompanied by nephritis. Ten days after operation she developed uremia and died on the sixteenth day after operation. Case 32 had performed several abortions on herself, each time with severe systemic disturbances, the last one was three days before the onset of the appendicitis attack. Case 36 had all the exanthemata of childhood, including scarlet fever. He had enteric fever and influenza in early adult life. He died of sepsis after a hard fight, fourteen days after operation.

Urine.—Three patients, on admission, were found to have a well-marked nephritis, though none of these died of uremia. Nearly all the cases showed traces of albumin, including three cases dying of nephritis. Every case gave albumin and casts after etherization.

Bowels.—Previous constipation is mentioned in 22 cases and diarrhea in 2 cases, just preceding the attack and followed by constipation after the onset. The bowels were regular in 7 cases.

Stomach.—Chronic dyspepsia is noted in 30 per cent. of the cases.

SUMMARY OF SYMPTOMS.

Admission to Hospital.—The patients were admitted from 8 hours to 14 days after the onset of the last attack, averaging 6 days, as follows: Within 24 hours 3 cases, after 2 days 5 cases, after 3 days 5, after 4 days 5, after 5 days 1, after 6 days 4, after 7 days 4, after 8 days 2, after 10 days 2, after 11 days 1, after 12 days 1, after 14 days 4.

Temperature and Pulse.—The temperature on admission varied from 97.4 to 102.6 and averaged 100.2. The pulse was 76 to 162, averaging 97.

Nausea.—Vomiting was present in 25 cases, nausea only present in 10 cases, no nausea nor vomiting present in 2 cases.

Pain.—The pain began either as a sharp colicy pain about the umbilicus or as a dull ache in the epigastrium, becoming in a few hours either general (20 cases), or localized to the right iliac fossa (17 cases).

Tenderness.—This was present in every case and usually exquisite in character.

Rigidity.—This was noted on both sides in 22 cases, on right side only, in 15 cases.

Tympanites.—This was present in 14 cases, absent in 23 cases.

Tumor.—A well-defined mass was noted clinically in 18 cases, and a slight tumor in 3, in every case confirmed by operation. Sixteen cases failed to show the presence of a mass clinically; in 6 of these general purulent peritonitis existed with marked tympanites, and in 2 cases the abscess was in the pelvis.

OPERATIVE DETAILS.

Time of Operation.—23 cases were operated on on the day of admission, 12 cases on the day after admission, 1 on the fourth day after and 1 on the seventh day.

Anesthetic.—In all cases ether was used as the anesthetic and the time of operation varied from several minutes in two cases, where the abscess cavity was merely opened and drained, owing to the poor condition of the patient, to fifty minutes. The average time was from 25 to 30 minutes.

Incision.—The incision was made through the right rectus in cases where no tumor mass was determined and to the outer side of the tumor, when that was detected. The incision was always large enough to work with ease. Edema of abdominal walls was encountered six times.

Adhesions.—In 33 cases the appendix or the cecum were bound either together, to the abscess wall or to the right iliac fossa in a mass of adhesions. In two cases there were no adhesions.

Condition of the Belly Cavity.—In 11 cases there was a general purulent peritonitis, in 9 of which the appendix was perforated, necrotic and gangrenous and in which the small bowel was the subject of exudative peritonitis. In the others the appendix was highly inflamed, but with no perforation, and an abdomen full of sero-pus, evidently a migration of the infecting organism through the diseased wall of the appendix. In 11 cases there existed a large localized collection of pus in the right iliac fossa, well walled off in most instances by a thick exudate, tangled omentum, cecum and small bowel, and containing foul greenish pus. In these abscesses the appendix in 5 cases floated, necrosed from the cecum. In 4 cases the appendix was gangrenous, usually perforated. In 2 cases the appendix was not searched for—merely opening and draining the abscess. In all cases there was more or less necrosis of the cecum. Whether there was general infection was not determined at operation.

In 5 cases there not only existed a localized abscess in the right iliac fossa, but also a collection in the pelvis and with the appendix either on the brim or in the pelvis, and in an ulcerated and semi-gangrenous condition with a perforation in 3 cases. In 7 cases there existed a small collection of pus about the appendix in the right iliac fossa with a perforated appendix in 2 cases. The other cases showed a highly inflamed appendix with necrosis of the mucous membrane.

Three cases were free from abscess formation: Case 3, with a coincident carcinoma of the cecum; Case 14, with an acute interstitial appendicitis; and Case 34, with an acute catarrhal inflammation of appendix. These cases, with the cause of death, are discussed later.

Methods of Appendicectomy.—In 35 cases the appendix was removed either by ligation or by cutting it off at the cecum, except in the 5 cases with entire necrosis of the cecal end of the appendix. In these cases an attempt was made to close the cecum with Lembert sutures and in one a fecal fistula was encouraged owing to the extensive sloughing of the head of the cecum.

Drainage.—Thirty-three cases were drained, 17 by use of a glass tube into the pelvis and from one to eight pieces of iodoform gauze either in the coffer dam arrangement, or as wicks to drain the pelvis, abscess cavity or appendix stump. In some cases of general infection one or more pieces of gauze were placed across the abdomen. In 2 cases a loin incision was also made and rubber counter drainage introduced. Four cases were not drained. Cases 3, 14 and 34 were clean and were sewed up in tier suture, the first two with silk and Case 34 with catgut. Case 30 was one of general peritonitis, but there was no free pus, merely a lusterless peritoneum with a turbid, odorless sero-pus in the pelvis and the appendicitis was of but eight hours' duration. Eight of the cases of general peritonitis were freely irrigated.

DEATH AND CAUSES.

Time of Death.—Death took place on an average of 5.4 days after operation, excepting the last two cases, as follows: Within 24 hours 3 cases, on the second day 2, on the third day 10, on the fourth day 5, on the fifth day 2, on the sixth day 3, on the seventh day 1, on the eighth day 3, on the ninth day 2, on the tenth day 1, on the fourteenth day 1, on the sixteenth day 2, on the forty-first day 1, on the forty-third day 1.

When we review the clinical histories, the findings at the operating table and the results of a partial postmortem of the 37 deaths which have been analyzed in the preceding paragraphs we find four causes for the death of these patients.

Peritonitis.—First and foremost stands that dreadful disease, peritonitis, by far the most frequent complication of appendicitis. Thirty-two cases or 86 per cent. of these deaths were due to that infection; and as general purulent peritonitis, in our experience, is almost invariably fatal, these 11 cases were beyond surgical aid when admitted to the hospital. Three of these were of the fulminating type, were promptly recognized and sent in for operation within twenty-four hours of the onset, but not one was suffering from an initial attack—two, four and five previous onslaughts of appendicitis tells the story of the fatal ending of these cases. They had "recovered" from the early attacks. Of the other 8 cases, 4 were in the initial attack, but after the use of calomel, poultices and careful deliberation over the rise or fall of a leucocyte count, four and a half precious days on an average, had slipped away, never to return, and the patient comes to the hospital with a gangrenous and perforated appendix and with a beginning or a complete peritonitis.

The following case of general peritonitis is of interest. The autopsy report is typical of these cases:

CASE 8.—A man, aged 24, of poor physique, with indigestion and constipation. During eight months has had several attacks of pain over the appendix, sometimes severe and accompanied with nausea. Two days before admission he was seized with severe pain over the appendix, with nausea and vomiting. On admission his temperature was slightly subnormal, pulse 108, abdomen as stiff as a board but not distended. Nothing could be determined by palpation. Rectal examination negative. Was very tender over entire abdomen.

Operation revealed a belly full of pus, with an appendix free and not perforated. Appendix removed and glass and gauze drainage introduced.

Patient died 38 hours after operation. Partial postmortem revealed the abdominal cavity full of pus, thick, yellowish and malodorous. Colon and bowel enormously distended and covered with a soft plastic exudate. No perforation of intestine or stomach. Wound in cecum intact. The appendix was 6.75 cm. long, 4 to 6 mm. in diameter, was red, inflamed and swollen. No perforation or concretions. Mucous membrane hemorrhagic in places and slightly ulcerated at tip. Bacteriologic examination of cultures made from abdominal cavity at operation revealed the colon bacillus in pure culture.

Having considered 11, there remain 21 more cases of peritonitis to be discussed. In 19 of these there existed a peri-appendicular abscess of large or small degree and either anterior, posterior or in the pelvis as regards location. Whether the infection of the peritoneum was general at the time of operation or whether the mechanical injury to which the peritoneum was subjected during operation, in the presence of infecting bacteria, was the cause of a resulting diffuse peritonitis, is a matter of conjecture. But at any rate 8 of these 19 cases, shortly after operation, developed the clinical picture of general peritonitis; the belly becoming more and more distended, enema ceasing to be of avail and eserin always proving useless. The bright eye, flushed face, clear mind, rapid, wiry pulse, and the ever-increasing vomiting of a blackish material, partly fecal and partly altered blood, all telling the tale of an, alas, too often recurring story. These patients died on the second to the fifth day, as a rule, and an autopsy would reveal a general purulent peritonitis with many adhesions at the site of operation.

The following case is of interest in this connection, because, while the most conservative treatment was adopted, the patient died.

CASE 10.—A man, 60 years old, without any previous diseases or cause, was suddenly seized with a typical attack of acute appendicitis, promptly developed an abscess and was admitted seven days after onset. He was anemic, temperature 100.4 and a large abscess in the right iliac fossa, exquisitely tender to palpation. Both recti rigid; 19,800 leucocytes.

A few whiffs of ether were given, an incision made into the abscess, its cavity wiped out and gauze drainage introduced. No attempt was made to locate the appendix. The patient died sixty hours after operation. A partial postmortem showed a general purulent peritonitis with gangrene of the appendix and caput coli.

There were six cases which did not develop general peritonitis, and while in these the peritoneum was able by some process, imperfectly understood, to form sufficient adhesions to prevent infection of the general abdomen, yet by reason of its great absorptive power sufficient ptomains and toxins were absorbed to overcome the resistance of the individual. In all of these cases the patients were not admitted until four to six days after the onset and were already septic when operated on.

After operation the temperature ran a septic course, there was a weak pulse, leaky skin, sometimes diarrhea and then hiccough, delirium, paresis of the bowel and a failing heart muscle presaged the end of the patient. Death took place from six to seven days after operation and the autopsies showed an extensive circumscribed purulent or sero-fibrinous peritonitis with damaged kidneys or diseased heart muscle.

The following illustrates this type, with an unusually long course:

CASE 24.—Female, aged 43. Several attacks before the present one. One week before admission was seized with the typical symptoms of appendicitis—pain, tenderness, rigidity and vomiting, with chills and vesical irritability. A mass could be determined on the right side.

Operation revealed a large posterior abscess and with an appendix sloughed off from a necrotic cecum. The abscess cavity was wiped out with gauze, the appendix removed and drainage introduced—glass and gauze into the pelvis, around and in the abscess cavity.

The patient recovered from shock and did nicely until six days after operation when on removing the gauze a fecal fistula began. The wound gradually healed by granulation and there was no untoward symptoms, except a septic temperature and the fistula for four weeks. The patient at this time was sitting up. Thirty-four days after operation she began to have a more decided sepsis, with chills and sweats. Vaginal examination revealed a doughy mass on the right side; but her condition forbade operation and 41 days after operation she died.

Postmortem revealed a localized adhesive peritonitis, a necrotic cecum with a fistula at the appendix site, a secondary abscess of thin brown pus in the median line among the small bowel and a large abscess in the pelvis with a thick wall and containing thick, greenish, malodorous pus. Sigmoid markedly congested.

The median abscess was evidently an infection from the fistula and the collection in the pelvis evidently existed in part at the time of operation and was not taken care of by the drainage.

Intestinal Obstruction.—Whenever many operations for relief of appendicitis are performed, especially in the presence of an abscess, intestinal obstruction must be feared. This condition, which usually does not occur for ten days or more after the primary operation, was met 6 times in this series. In one case the obstruction was not complete and was only discovered at autopsy as a partial obstruction from dense adhesions, the patient dying of sepsis six days after operation. In 4 cases a large peri-appendicular abscess existed with much exudate, and in one of these cases the obstruction did not develop until forty days after operation. The cases cited died from general peritonitis, about the third day after re-operation.

CASE 34.—The sixth was admitted on the second day of an attack of acute appendicitis. Operation revealed a highly inflamed appendix with adhesions to cecum and right iliac fossa. It was ligated and wound closed with catgut tier sutures. The patient developed an ether bronchitis and four days after operation, during a severe spell of coughing, the wound gave way and part of the small bowel was pushed out of the abdomen. Ether was given and the bowel further delivered and washed with saline and then replaced. Cecum was not examined. The wound was closed with through-and-through wormgut sutures with a small gauze drain at the lower end. Four days later symptoms of intestinal obstruction developed, the abdomen was promptly opened and at the ileocecal valve the ileum was found completely obstructed by a mass of adhesions from the free edge of the meso-appendix. These were relieved and the wound closed, using glass drainage and one piece of gauze. Patient died thirty-six hours later.

Postmortem revealed a general peritonitis and an acute parenchymatous nephritis.

The last case dying of general peritonitis is of great interest:

CASE 3.—W. B., aged 43. Family and previous personal history are negative. Never suffered from pain over the cecum. No loss of weight. Bowels are regular. Eight days before admission he was suddenly seized with severe abdominal pain which lasted a few hours, subsided and remained as a dull ache over the right iliac fossa. Bowels became constipated; vomited at first. On day before admission the pain became more severe. On admission there is rigidity of both recti muscles with tenderness low down in the right iliac fossa; 14,200 leucocytes, 78 per cent. H.B. and 3,740,000 red cells.

Operation under ether revealed a carcinoma about the ileocecal junction, about the size of an orange, very hard and surrounded by dense adhesions. The appendix was tied up in this mass and was acutely inflamed. An ileo-colostomy was performed, using a Murphy button to perfect the anastomosis. The appendix was incised and some escaping pus was wiped away. Gauze drainage was disposed about the appendix and incision partly closed with wormgut. The patient developed general peritonitis and died three days after operation.

Partial postmortem revealed the abdominal cavity full of pus, with anastomosis leaking and ileum at the seat of carcinoma almost totally occluded.

This concludes the deaths from peritonitis, leaving five more to be considered.

Other Causes of Death.—Case 4 suddenly collapsed on the second day after operation from heart failure. Case 22, a man 77 years old with a small abscess about a highly inflamed appendix, died on the third day after operation from pulmonary edema. Cases 5 and 29 died of uremia six and eight days, respectively, after operation. Case 14 was of peculiar interest:

CASE 14.—Miss F., aged 29, always enjoyed good health until one year ago, when she was taken with scarlet fever with a complicating nephritis. Recovered, but has not been in perfect health since, suffering with backache, indigestion and constipation. Three weeks before admission she was seized with severe abdominal pain, most marked in the epigastrium and with nausea, vomiting and constipation. Twelve hours later her bowels were moved and the pain subsided, but has remained as a residual soreness on the right side. On admission there was slight rigidity of the right rectus and tenderness at McBurney's point, etc. Urine showed a trace of albumin only.

Operation revealed an acute interstitial appendicitis with no adhesions. Appendix removed and wound closed with silk tier sutures. Several bleeding points in the superficial fascia had been ligated with catgut.

Recovery was uneventful, stitches removed on the seventh day and on the ninth day patient allowed to sit up, but towards evening was feverish with temperature 101. Wound appeared in good condition.

On the tenth day she suddenly developed a phlebitis of the left femoral vein, temperature 103.2. Wound opened and a small stitch abscess evacuated. But towards evening she began to develop uremic symptoms, with suppression of urine. On the eleventh day the temperature was normal and remained so, but in spite of all efforts the kidneys were inactive and the patient died sixteen days after operation.

The six deaths in children present the following facts of value: All six had a general peritonitis at the time of operation. They were all operated on in the initial attack. The time elapsed between the time of operation and onset varied from two to twelve days. Five had abscesses, three in the pelvis, one post-cecal and one sub-hepatic. In five cases the appendix was perforated and gangrenous. The sixth case had no localized collection of pus, but a general infection of the peritoneum. This patient died three months after operation of uremia. At the postmortem there was found a general purulent peritonitis.

The appendix was removed in five cases, the sixth died of shock on the table. One other case did not react and died in thirty-six hours of shock and sepsis. Two died in forty-eight hours and one in five days of purulent peritonitis.

DEDUCTIONS FROM THE STATISTICS.—PROPRIETY OF EARLY SURGICAL INTERFERENCE.

When we consider the awful array of pathologic conditions which appendicitis is capable of causing and that most, if not all, might have been avoided by the early institution of surgical measures, we believe we have sufficient grounds for presenting this paper.

For a disease which has been determined to be a purely surgical malady, we know of no other affection which is as infrequently placed under the direct charge of the surgeon until interference is imperative to save life, as is appendicitis. Why is this so? There are still too many skeptics who do not believe in the propriety of surgical interference prior to the formation of pus. We can not find any reasonable excuse for this state of affairs other than a want of practical knowledge of the living pathology of the affection in question. The time has come when it is the plain duty of all surgeons to insist upon the one sure and safe treatment of appendicitis, early operation. We know of no other surgical measure which is so reasonably sure of success after early operation and when prompt interference means as much to the patient as in acute appendicitis. When the laity cry for early operation it is high time that the medical men be equal to the occasion. Is it not a stigma to our profession to have the laity better versed as to the correct thing to do in this disease than are many of our profession?

By the institution of surgical interference following immediately the onset of the disease the convalescence is curtailed in the majority of instances and the complications and sequelæ prevented. When we compare this with the protracted and uncertain recovery, to say nothing of the complications and sequelæ, the risk to life from acute intestinal obstruction and the awful devastation of the ever-present pus and sepsis in late operations, there is no question as to the choice between the two.

We learn many things in surgery which, as time elapses and our experience ripens, we must forget so as to profit by the work done and seen. There was a time when we firmly believed that an ice bag was an imperative necessity in the treatment of acute appendicitis and that it was wise to wait until the subsidence of the attack, so as to remove the diseased appendix in the period of quiescence. The objection to the use of the ice bag in the treatment of acute appendicitis is like that of opium, but not to the same degree, however, namely, the false sense of security to which it may lead us by partially masking the symptoms; while in certain cases it may do good, still in others it may lose to the patient valuable hours in delay so that perforation may take place, formation of adhesions with or without pus, or the insidious invasion of the general peritoneal cavity follow the onset of the disease, even with the abdomen covered with ice bags. If it is true that by the prompt use of the knife, as our experience shows, our mortality rate is lowered; and further, that the complications and sequelæ are avoided, making more certain the limitations of empirical treatment, then the wisdom of early surgical interference, as opposed to the use of the ice bag and purgatives with the hope that temporary relief will be procured, is clearly defined.

We are satisfied that in years gone by many valuable lives have been sacrificed by waiting for an attack of appendicitis to subside in order to perform the operation of election between attacks. That terrible uncertainty which always exists in appendicitis no longer should exist, for we are aware that if an attack is permitted to advance to the pus formation stage that we may have any or all of the complications and sequelæ. We are aware that some cases of appendicitis will temporarily improve, but if we follow these long enough there is an entirely different tale unfolded.

To the statement that an amelioration of symptoms in acute appendicitis should always be regarded as favorable and a contra-indication to operation, we take exception. The progressing pathologic process is so uncertain and so difficult, yes, impossible to decipher by the means we possess, exclusive of opening the abdomen, that we clinch this opportunity to operate and thus save lives that otherwise would be lost in waiting for convalescence and the interval stage, which too often does not arrive. We are sure that many will take exception to this, but nevertheless we are forced from our experience to decry such exceptions as false. Even though the symptoms apparently ameliorate, the pathologic process is too frequently hurrying on to the stage of pus formation. To follow this teaching is to practice the rule that proves the best in the majority of instances. To attempt to make ourselves familiar with the pathologic freaks which this disease is capable of displaying is to study the process in the living belly cavity, not in hundreds, but in thousands, and to do this one must be ever present at the side of the operating table; and he who doubts our position we invite to witness our operations at the German Hospital, where we know we can make him a convert to our teaching and practice.

The oft-repeated, old, old story of procrastination is nowhere better illustrated than in connection with the delay in waiting for the interval operation. There is a temporary improvement under the application of the ice bag and administration of laxatives, which, however, should not mislead anyone, as it often is immediately followed by an exacerbation of the symptoms of the disease, indicating a perforation of the appendix, or the formation of pus or its dissemination. Even while the apparent lull in the appendiceal storm is on, grave complications are making headway in the abdomen, out of sight and out of reach of the examining finger. We all of us know that the temperature and pulse rate are of no diagnostic value in many instances and that the dangerous constitutional evidences of the disease are not made manifest until the irreparable damage has been done and too often a dear and valuable life sacrificed.

The appearance of shock or collapse early or at the time of onset of a secondary attack means but one thing, perforation of the appendix has taken place. We are convinced that all the fulminating cases of appendicitis are such because they almost always occur in a secondary attack of the disease. How often has it been the experience of a surgeon to hear the statement made that the collapse came as a thunder-bolt out of a clear sky, and after a careful inquiry into the previous history of the case, find that the patient has been the subject of many premonitory symptoms of appendiceal irritation with the culmination of this disastrous state of affairs.

It is on account of the many, many accidents complicating the disease during an attack and because so many fatalities attend subsequent attacks that we have determined to disprove of the interval operation and come out flat-footed against delay in the primary attack.

Acute intestinal obstruction following delayed operation in acute appendiceal disease has occurred most frequently in our experience in the right iliac fossa and made its appearance after ten days or two weeks

had elapsed and in a most insidious way. While recognized promptly and an operation instituted for its relief directly after its recognition, the results have not been at all reassuring. It has been our practice where obstruction is suspected to open the abdomen on the appearance of paroxysmal pain with nausea or vomiting and inability to move the bowels or pass flatus.

A glance at the table of statistics shows that the mortality of the operation for the relief of obstruction is 60 per cent. Now, our friends who decry early operation can not say that this sequel to the delayed operation for appendicitis is a point in favor of delay. It is a fearful commentary on the obstinacy of some, who, in defiance of the many discussions which this disease has undergone and the gradual conversion of many to the conclusion that there is something in the surgical treatment of appendicitis after all. These same fanatics continue to raise a hue and cry, both by voice and in print, against the too frequent use and abuse of the knife. There is no doubt in our minds that had early surgical interference been instituted in the cases which subsequently had obstruction, before the adhesions formed, they would still have been alive and well.

SECONDARY ABSCESSES.

Secondary abscesses, a result of acute appendicitis, occur frequently enough to warrant a few passing remarks on their origin, significance and their prevention. The convalescence of an appendix case complicated by abscess is in many instances uncomplicated, but unfortunately in others a secondary collection forms which may seriously jeopardize the patient's recovery or prolong the convalescence to such an extent that an undermining of the constitution results, which leaves the sufferer an invalid for a long period of time and in some instances is followed by a neurasthenic state from which they never entirely recover, or, as instanced in this paper, result in death from a collection at a point far distant within the peritoneal cavity.

The evacuation of the primary focus of infection does not necessarily mean the removal of pus from a secondary abscess. A secondary collection is often exposed upon breaking up the adhesions which help to form the wall of an abscess cavity, and it is our practice to do this in certain cases, not only in the hope of finding a secondary collection, but to avoid contraction of the abscess wall and in this wise prevent an intestinal obstruction. It has been a safe practice in the author's hands to break up the adhesions forming a portion of the abscess wall, provided that the proper use of gauze has been made to safeguard the general peritoneal cavity.

FECAL FISTULÆ.

Fecal fistula, a distressing and preventable sequel to appendicitis, occurs always as a result of progressive and destructive inflammatory action consequent upon a late operation for the disease, and is due to one or two causes, a softening of the surrounding bowel wall from micro-organismal invasion, or to the subsequent breaking down of the bowel from interference with its nutrition, also due to the acute inflammatory disease. A fatal termination occurs in a certain percentage of non-operated fecal fistulæ. The involvement of both the large and small bowel in a fecal fistula leaves the patient in a very precarious and dangerous condition, owing to the interference with the nutrition and the escape of the very elements of nutrition through the fistula.

Any operation for the repair of a fecal fistula, no matter when performed, is attended by danger and risk to life. There are a few instances where the fecal fistula closes spontaneously. Our experience with fecal fistulæ closing spontaneously has not been so happy as many of our colleagues, judging from their reported cases. We have occasion to repair many cases of fistulæ, not only in our own patients but those of others, where as long a time as one year has elapsed without spontaneous healing having taken place. In a percentage of these cases the lesion has been more than a fistula, an artificial anus. It is not our practice to interfere in the case of a fistula, unless it be of the small bowel and attended by the escape of the essential nutrient material, until a considerable time has elapsed and healing not taken place.

COMPLICATIONS.

The complicated cases of appendicitis present so many phenomena that the merest mention only of the more prominent can be made, owing to the limited time permitted to the subject. Among the more common complications are: General peritonitis, involvement of the omentum with abscess, abscess of the mesentery, and inflammation of the lymphatics of the mesentery glands followed by abscess, abscess between the coils of small bowel, pyemia of the portal system the result of phlebitis of the veins of the meso-appendix, with or without metastatic liver abscess, gangrene of the cecum, colon and small bowel, abscess of the liver from contiguity of structure, septic nephritis, septic meningitis and phlebitis of the lower extremity, particularly the left, but sometimes both.

Phlebitis as a complication of appendicitis never occurs except as a result of infection; when phlebitis is a sequel to chronic appendicitis operations there will be found some point of oversight in the technic that accounts for the infection. Phlebitis may be a serious complication and may cost the patient not only their future usefulness, but may also have a fatal termination, as instanced by embolic obstruction.

OTHER SEQUELÆ.

The three sequelæ of acute appendicitis most commonly met are fecal fistula, hernia and intestinal obstruction.

Hernia as a sequel to acute suppurative appendicitis in our judgment always follows the extensive use of drainage and, we are almost prepared to say, in all instances where drainage is used. Like fecal fistula, it is preventable and the operation for the repair of the defect in the abdominal incision is attended by a much greater risk than is the primary operation, if done at the opportune time. A successful result is not always obtained for several reasons: first, because the tissues are so thinned out that any attempt at repair is followed by a recurrence of the hernia and, second, the possibility of an infection of the wound or of the peritoneal cavity, thereby causing the patient to assume the risk of peritonitis twice where it should not have been a possibility in the first instance.

The painful dressings occasioned by the removal of the protective gauze packing and drainage and its reinsertion in suppurative cases play an important rôle in the convalescence; not only does it cause the patient great pain and anxiety, but it may be a possible source of contamination to the peritoneal cavity, if through any mischance in the effort to repack the wound protecting adhesions are broken through. We believe that these dressings are, in a percentage of cases, the cause of an undermining of the nervous system.

APPENDICECTOMY.

The appendix should be removed in all cases where operation is done early. In late cases whether the appendix should be removed must depend upon the skill and experience of the operator, the local condition and the condition of the patient. We have in a few instances, as will be noted in the foregoing pages, refrained from removing the appendix, contenting ourselves with simple evacuation of the abscess. The patient's condition was so shockingly bad that we did not consider it wise to do more than evacuate the abscess. A patient whose condition is so bad that operation on the abscess cavity is alone warranted is not in any way promising. The mere evacuation of an appendiceal abscess without the removal of the appendix does not cure appendicitis, and any surgeon who so informs his patient practices a deception; while it may possibly be done without the intent to deceive, it is a fact nevertheless. Occasionally the operator is led to believe that the appendix has sloughed off because a mass of lymph floats out of an abscess cavity. We have, on more than one occasion in the distant past, been led to suppose that this was so, but a riper experience has taught us differently. A careful survey of the abscess wall under these circumstances has found the appendix imbedded in lymph, although completely severed from the cecum. When in the evacuation of an appendiceal abscess a mass of lymph shaped like the appendix is seen in the abscess or to float out with the pus, it must not be supposed that this is the appendix. We admit that this may look not unlike the appendix, yet a careful examination to settle the question is in order. To entertain the thought that the evacuation of the appendiceal abscess spontaneously by way of the bowel, pelvis or the ureter, bladder, through a bronchus or any other internal avenue, or externally, even by the knife, is a safeguard against subsequent attacks of the disease is not borne out by the experience of those of us who operate upon cases presenting such a history or who operate for the cure of hernia or a fistula following these evacuations. Under these circumstances we have operated many times, and have yet to find the appendix absent. Some of the largest appendices we have removed have been in cases of this character.

LEUCOCYTOSIS.

A word about the white blood count in acute appendicitis. In our experience a leucocytosis is present in the majority of cases. That it is of any particular moment in only the doubtful cases we are convinced. In any but doubtful cases, and these are few, for the diagnosis of this ailment, particularly if seen early, is not a hard one to make. To defer operation for any length of time until a blood count is made is to expose the patient to a risk not justifiable and places the medical attendant, be he physician or surgeon, in a position which makes him censurable. To take out an healthy appendix, if there is such a thing in a believed case of acute appendicitis, is much less a crime than to jeopardize a patient's life by deferring operation in a bona fide case until a leucocytosis is present. A leucocytosis in gangrenous appendicitis is not often present, owing to the lowered resistance of the patient; therefore if depended upon under these circumstances what may be the patient's only chance to get well, operation, has been deprived him.

Leucocytosis in late cases, where that often referred to and by many hoped for condition, walled off abscess, is present, is frequently absent. Microscopic doctors are of value if confined to the laboratories, but in the sick room they are useless.

CONCLUSIONS.

In concluding this abstract we will summarize the lessons learned from the preceding facts. Early operation means cure. There is no doubt as to obtaining a good result if the case be operated on while it is still one of appendiceal colic and not deferred until acute inflammation of the appendix has supervened. Deferred operation means protracted convalescence and invalidism or death. It is better to take out an occasional healthy appendix than to leave one that may cost a life.

APPENDICITIS.

A BRIEF REPORT OF THE AUTHOR'S NINE FATAL CASES, WITH COMMENTS.*

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NEW YORK CITY.

THE CASES BRIEFLY NARRATED.

CASE 1.—Mr. L. July, 1891. Age over 60. Perforated appendix; incomplete adhesions; slowly progressive, general peritonitis; general sepsis; typhoid condition at time of operation.

Operation.—Tenth day. Lateral incision; appendicectomy; general peritoneal irrigation; iodoform gauze, packing and drainage.

Peritonitis and sepsis progressed and patient died a few days after the operation.

CASE 2.—V. L. October, 1895. Age over 60. Fulminating gangrenous appendicitis; no adhesions; general acute peritonitis and peritoneal sepsis.

Operation.—At thirty-sixth hour. Free incision; appendicectomy; irrigation; iodoform gauze packing and drainage.

Continued sepsis. Death thirty-six hours after operation.

CASE 3.—W. S. Age 6 years. Fulminating type, gangrenous appendicitis, with perforation; very large concretion; no adhesions; acute general peritonitis; peritoneal sepsis.

Operation.—At twenty-fourth hour. Free incision; appendicectomy; irrigation; gauze packing and drainage.

Death within thirty hours.

CASE 4.—Mr. C. August, 1898. Age 20 years. Fulminating type of acute gangrenous appendicitis with large cast-like concretion; general peritoneal sepsis.

Operation.—Thirtieth hour. Free incision; appendicectomy; peroxid irrigation; dry sponging; gauze drainage.

Death within twenty-four hours.

CASE 5.—L. E. B., Feb. 4, 1899. Age 11 years. Acute perforating appendicitis; abscess behind cecum and free pus in abdominal cavity; extensive progressing peritonitis. Patient was brought to the hospital from a distance of seven miles sitting in a buggy.

Operation.—Fifth day. Free incision; irrigation; hydrogen perixod; gauze packing.

Peritonitis and sepsis continued to progress. Death on the fourteenth day.

CASE 6.—J. G. May 24, 1899. Age 37 years. Gangrenous appendicitis; gangrene cecum; perforation without adhesions; general suppurative peritonitis. Patient brought to hospital on fifth day, the appendix having ruptured before his admission.

Operation.—Free incision; appendicectomy; peroxid irrigation; dry sponging; gauze drainage. Abdomen was found filled with foul-smelling pus.

General peritonitis and sepsis. Patient died within thirty hours.

CASE 7.—Wm. M., Jan. 30, 1900. Age 37 years. Gangrenous appendicitis; general suppurative peritonitis; peritoneal sepsis. Patient was admitted to hospital on the third day of attack.

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Operation.—Third day. Free incision; gangrenous appendix removed; peroxid irrigation; gauze drainage.

Sepsis continued. Death within thirty hours.

CASE 8.—Mr. C. October, 1900. Age 26 years. Acute suppurative appendicitis; perforation on the third day without adhesion; general suppurative appendicitis.

Operation.—Some hours after perforation; free incision; appendicectomy; peroxid irrigation; dry sponging; gauze packing.

Peritonitis and sepsis continued. Patient died on the second day after operation.

CASE 9.—Miss D., Oct. 25, 1901. Age 14 years. Acute suppurative appendicitis; localized peritonitis; perforation into adhesions. Patient was not seen until late.

Operation.—On the sixth day. Free incision; evacuation of abscess; peroxid disinfection; gauze drainage.

At time of operation the patient was in a very weak condition. A rather prolonged search through the adhesion for the appendix did not disclose it and as it seemed wise to terminate the operation on account of the patient's condition, the appendix was not removed, but the abscess drained. Patient apparently did well for about ten days; the temperature became practically normal, the wound was rapidly healing, and the author turned the case over to the family physician for final treatment, when the patient went into sudden collapse with symptoms of perforation and died within a few hours.

COMMENTS ON THE CASES.

By reviewing the above cases it will be seen that five of them, namely, Nos. 2, 3, 4, 6 and 7, were of the type of acute gangrenous appendicitis, rupturing into the peritoneal cavity without adhesions. Three of the cases, namely, 1, 5 and 8, were of the type of perforating, suppurative appendicitis without adhesion or with incomplete adhesions in which there was free pus in the peritoneal cavity, with acute general peritonitis, or with progressive suppurative peritonitis. In only one case, namely No. 9, was there a circumscribed abscess. In fact, this latter case is the only one in which a fatal termination was not expected and predicted.

On carefully inquiring into the histories of these cases it was found that nearly all of them had had previous attacks from which they had apparently recovered, or that they had had symptoms to which they had paid but slight attention, but which would easily have been recognized by a skilled diagnostician; and had they been operated on at one of their earlier attacks, or at any time previous to the final breakdown of the appendix, it is fair to assume that they would have recovered.

IMPORTANCE OF EARLY OPERATION.

It is a conviction of the author that death from appendicitis is due to but one thing; that is, too late an operation. In every case of fatal appendicitis there has been a period when the patient could have been operated on successfully and safely.

One of the points which the author wishes to make is that appendicitis is purely a surgical disease and that it can only be treated properly by surgical intervention. Time would not permit, nor would it be fitting here, to set forth arguments in support of this statement, but it is a statement which can be fully sustained by sound reason and by good practice.

Some years ago the author set forth his views concerning the proper method of treating appendicitis, and with very little alteration that method serves him today. It embraces, first, the palliative treatment; second, rules for operating on an interval case; third, rules for operating on an acute case with circumscribed peritonitis with or without abscess; and fourth, rules for operating on an acute case with general peritonitis.

PALLIATIVE TREATMENT.

According to present knowledge palliative treatment is properly applicable to a very limited number of cases, namely, only those in which there is some strong contra-indications to operation, or in those cases in which an experienced surgeon will feel comparatively sure that the patient is proceeding to prompt recovery and in which he may look forward to safe postponement of the operation to the time of the interval. The treatment is very simple and is as follows:

Put the patient in bed and keep him there.

Apply over the whole of the right iliac region a soap "poultice," consisting of green soap spread on a single layer of muslin or linen.

Over this apply a broad ice bag or an ice coil.

Relieve the bowels daily by soap and water enemata.

Keep the stomach at rest while vomiting exists.

Restrict the patient to milk, if he can take it; if not, give him clear broth, never solid food.

Note the temperature, pulse and respiration every four hours.

Have all preparations made for an immediate operation.

Remember that your treatment is purely expectant.

Give no drugs.

Never give opium or morphin in cases of appendicitis except in case of abdominal shock from rupture of appendix or of abscess.

OPERATIVE TREATMENT.

There are certain general rules that the author applies to all forms of operations. These will be touched on at once, and then will be taken up the special indications and procedures.

He insists on having one of his own assistants when possible, considering that the protection of the peritoneum by gauze packing and the retraction of the wound are of the utmost importance. It is also important to have a nurse who is thoroughly familiar with the operative methods. The entire abdominal surface should be sterilized as completely as possible. There should be prepared a proper operating table. The Trendelenburg posture should not be employed. Hand sponges and flat laparotomy sponges should be made of sterilized gauze arranged in packs of ten and carefully counted and recounted after the operation. For catching and removing pus on opening an abscess small marine sponges are used on holders. The patient should be slowly and carefully anesthetized. When thoroughly narcotized and the muscles relaxed, a final examination should be made. The operation should be done deliberately and carefully, but with all compatible speed.

We now come to rules for the special form of operation.

(*a*) *Rules for Relapsing and Recurrent Appendicitis—Interval Operation.*—After the patient has been thoroughly anesthetized, the skin properly prepared, the operation field thoroughly surrounded and protected by sterilized coverings, the operation is done as follows:

An incision is made external to the border of the rectus, parallel to the fibers of the external oblique. Its middle point should be on a line drawn from the umbilicus to the anterior superior spine of the ilium. The external oblique fibers should be separated without cutting and the internal oblique may be opened by cutting or splitting, according to the preference of the operator. The transversalis is opened in the same

manner. When the peritoneum is reached it should be lifted between two mouse-toothed forceps and divided, such care being taken as to positively insure against wounding the intestine, whether there be any adhesion or not. Of course, before opening the peritoneum all bleeding should be arrested.

When the peritoneum has been sufficiently opened the index finger is introduced and the region of the appendix explored. If adhesions are found, the entire wound should at once be enlarged so that the necessary separating and dissection may be done with facility and in plain view.

If there are no adhesions the wound may be a very short one in a very thin subject, not exceeding one inch in length, but it always should be large enough to enable the operator to do his work properly. When the appendix is found, if it is free from adhesion, its tip should be brought out of the wound and the mesentery should be divided between fine catgut ligatures. When the appendix is separated from the intestine, except at its base, it and a portion of the intestine should be brought out of the wound, so that the ablation can be done extraperitoneally. The author passes the appendix through a hole in the center of a flat gauze sponge, which gives excellent protection to the peritoneum.

The author passes a Lembert suture at each side of the base of the appendix and one at its middle, leaving the loop long; the first two are used as retractors holding up the intestine. The appendix is now cut off about half an inch from its base. Its canal is probed to be sure that it is pervious, then with a fine forceps the stump of the appendix is invaginated and the middle Lembert suture is tied as the forceps are removed; then the other two sutures are tied and the orifice is thus completely closed by Lembert sutures. The immediate region is disinfected with a drop of peroxid of hydrogen, the intestine is returned to the abdomen, the abdominal wall is closed with one through-and-through suture of catgut if the incision was short, more being used if necessary. A collodion dressing is applied. This operation is done as an aseptic procedure. It will require from 15 to 25 minutes to perform.

The after-treatment is very simple, consisting of rest in bed for one week, fluid diet for four days, enemata daily. The patient should be fully restored to health and his usual occupation anywhere from the eighth to the fourteenth day.

(*b*) *Operation for Acute, Suppurative or Gangrenous Appendicitis with Localized Peritonitis, with or without Abscess.*—After the preparation of the patient and operation field above described, a similar incision is made, but it must be extended at either end and should be at least four inches in length. The external oblique is opened by blunt dissection; the rest of the layers should be clean cut, and care should be taken not to separate one layer of the wall from another. If the aponeurosis and fascia are stripped bare they are very apt to slough, and thus leave a very weak wall.

The essential part of this operation consists of the intraperitoneal work in searching for and treating the abscess, if one exist, and in searching for and dealing with the appendix. The most important thing of all is the protection of the uninvaded peritoneum. This requires the exercise of sound judgment to determine how much to do, and of knowledge and skill to do it properly.

As soon as the peritoneum is opened sponge packing should be begun. Throughout the operation this must be done in such a manner that no infected tissue nor disease product can come in contact with healthy peritoneum. The first assistant must take entire charge of this.

When all the open spaces around the mass of adhesions have been completely closed by dry gauze pads, the wound should be well retracted and the tumor gently entered by separating adhesions and by blunt dissection. When an abscess is reached the author makes a pin-hole opening, and at once prevents the escape of pus by pressure of a small sponge held in an artery clamp. After a minute the sponge is replaced by a clean one and the pus is removed drop by drop, all of it being absorbed by these sponges and none of it allowed to escape into the wound. After pressure is sufficiently reduced by emptying the abscess the opening is gradually enlarged, and finally the cavity can be thoroughly sponged out. Now it should be freely opened and its interior disinfected with hydrogen peroxid. The size of the abscess will depend on the duration of the disease. Its walls are composed of adherent intestines thickly coated with plastic lymph, and the ruptured or perforated appendix usually forms some part of this wall.

We have now reached the point when the average of the results will depend on the judgment of the operator. If he is wise he will remove the appendix in only those cases in which it can be readily found and removed without separating too many adhesions. If he is rash, he will unduly persist in his manipulations, and in many cases he will break through Nature's safeguard at some point unseen and cause the death of his patient by secondary infection.

If the appendix can with safety be removed, it should be separated from the intestine with great care and gentleness, its mesentery properly ligated; then it should be ablated about a quarter of an inch from its base, and the canal thoroughly sterilized with the cautery. Now a single ligature of catgut should be tied around the appendix, including all its coats, then the superfluous stump beyond this ligature trimmed away with the cautery or scissors. Now the operator should thoroughly resterilize his hands, and all towels, etc., about the wound should be replaced by clean ones.

One or two sutures may be used at each end of the wound, but an ample opening must be left, for the wound must be treated by packing. Remember that in packing a wound for drainage you must not proceed as you would if you were calking a ship to prevent leakage. These wounds, whether the appendix has been removed or not, should be packed as follows: One piece of iodoform gauze, folded longitudinally, is passed to the bottom of the abscess cavity and brought out of the wound, and turned to the outer side of the wound. It should be large enough to completely fill the cavity, but not to stuff it. Now, as the first assistant slowly removes his gauze pads they should be replaced by pads of iodoform gauze which must be carefully protected from any contamination. These pads must completely close any spaces where adhesions are wanting, and they must come in contact with healthy peritoneum and separate it from all infected areas. Careful note must be kept of the number of pieces used.

Now the entire wound should be covered by first a pad of iodoform and then by several pads of plain, sterilized gauze; flat ones are the best. These should be firmly held by strips of adhesive plaster. Over this a thick layer of absorbent cotton is placed and secured by an abdominal binder.

In case the operation is done before the appendix has broken down, and there is no circum-appendicular abscess, the procedure should be the same as the one just described; but the appendix can be removed in nearly all instances.

The after-treatment of these cases is most important. It should be as follows: Complete rest of the stomach for twelve hours. Peptonized milk in small quantity after twelve hours, if there is no nausea or vomiting. Patient should be kept quiet on his back for four days. Enema of soap and water every day; if there is much tympanites, turpentine should be added.

The outside dressing should be removed at the end of twenty-four hours, and changed as often after that as it becomes saturated. The packing should not be removed until the fifth day—that is, on the fourth day after operation. This needs to be done as carefully as the operation itself. Retractors should be used and the wound well opened. Then the gauze should be removed from the tumor cavity. This should be thoroughly cleaned by dry sponging. No fluids should be used. Now this cavity should be carefully repacked, and then the protecting pads should be gently separated from the adhesions they have caused and new pieces substituted.

After this the wound should be dressed every third day. Soon a single packing will be sufficient, and this should be reduced in size at each dressing. The patient should be kept on fluid diet for one or two weeks, and be kept in bed until the wound is healed to a narrow sinus, which it will be in from three to five weeks. When the patient gets up he should wear an elastic binder for one year to prevent hernia.

No drug treatment will be needed. The author insists on his rule concerning morphin. These patients will be comfortable and free from pain if they have not been reinfected at the operation, unless the case were already one of progressing peritonitis.

(*c*) *Operation for Fulminating Appendicitis, with Rupture or Perforation of Appendix, with General Peritoneal Involvement.*—This operation must accomplish removal of the appendix and of all infective material and the cleansing toilet of the entire peritoneum. When the diagnosis of this condition is positive, a large median incision should be made. The right iliac region should first receive attention. If the appendix is still attached, it should be removed and the stump secured. If the appendix has sloughed off, the intestinal orifice must be closed. With one hand in the abdomen, a separate opening in this region should be made for special drainage.

Now every portion of the visceral and parietal peritoneum must be cleansed by thorough sponging, which shall remove all inflammatory products and all foreign material. After this is done, every portion of the peritoneal surface must be washed again and again with hot salt solution (6 to 1,000). If the patient's strength will permit it, the intestines should be systematically, coil by coil, washed outside of the abdomen. The work should be done thoroughly; but it must be done rapidly, for these patients are always in a bad condition. Often you will be obliged to be incomplete in your work to avoid death on the table.

After the cleansing is accomplished, gauze packing should be used so as to drain the entire abdominal cavity. Enough suturing should be done to prevent escape of the intestines into the dressings. A very large dressing must be applied externally; this should be changed in a few hours.

In these cases opium is called for to relieve the pain and as a stimulant against shock. A full dose should be given before operation.

The foregoing rules for operation were adopted by the author years ago, and he has had no reason to modify them materially. While he now removes the appendix in nearly every case, he still feels that there are cases in which it is safer to resist from such attempt than to persist.

In support of the reasons which have led the author to continue to put in practice the principles here set forth, is the fact that in thirteen years of operative work in this field, while he has lost nine patients, but one of those has been of a type of disease which is considered amenable to treatment.

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ANOMALIES OF APPENDICITIS.*

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Although the question of diagnosis of appendicitis is treated as an easy matter by the majority of writers, it still remains of extreme difficulty, owing to the varying data of a given case. Appendicitis is not a self-limited disease, presenting a typical course; it is an anomalous disease.

The following points, gathered by the writer from notes in his own work, point to the extreme care which a case may demand in its diagnosis and subsequent management.

LOCATION OF APPENDIX.

The appendix is not always located in the right iliac region. Twice it was found adherent to the liver; once to the gall-bladder; twice to the urinary bladder. In very stout patients a certain degree of enteroptosis is present and changes materially the location of the appendix. One may then expect to find it in any part of the abdominal cavity, according to the particular location in which the ileocecal region accommodates itself. Under these circumstances the location of pain becomes a very obscure matter. It may be found at any portion of the abdomen, radiating in various directions. Again, the location of pain is the result of educated sense; hence, the accuracy with which it is located about the tongue, fingers and surface of the body, generally. Not so, however, with the parietal peritoneum, which, untrained to sensation, is not prepared to refer pain to the exact spot of irritation. These two elements join to make pain and its location an uncertain factor in the absolute diagnosis of appendicitis.

VARIETIES OF MICRO-ORGANISMS.

It is generally conceded that infection is the cause of appendicitis. Sometimes this infection is secondary to the irritating presence of a foreign body. But the infection itself is not uniform and presents numerous anomalies which depart from a typical infection. The multitudinous and varying clinical aspects of cases arouse in us the search for a cause to account for each clinical picture. In vain do we search for such a cause. We know that a foreign body or enterolith alone and sterile would become encapsulated and produce no inflammatory result. Infection is, therefore, the true cause.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Bacteriologic examination reveals but three or four organisms—the bacillus coli, the staphylococcus, the lanceolatus, the streptococcus, and still the wonderful variety of lesions found about the appendix throughout its histologic structure, as well as the uncertain clinical appearances of the affection, would demand many more contributing etiologic causes. It behooves us, therefore, to examine into the bacteriologic element in the course of an attack of appendicitis. When Pasteur discovered the cause of anthrax and found that the *bacillus anthracis* caused death in animals whose temperature ranged from 98° to 100°, he also discovered that this same organism, when cultivated at 103 F., had lost so much of its virulence as now to serve as a vaccine for the cure of animals afflicted with the growth of this germ at their normal temperature. In other words, he established the fact that, organisms vary constantly in their virulence, and can be made to rise and fall in their irritating and poisonous effect, according to the nature of their surroundings.

Temperature, light, moisture, the nature of the soil and especially the degree of restricted space and soil to which their growth is limited: these principles are the ones from which we should seek the explanation of the various features of appendicitis.

THE VARIATIONS IN SYMPTOMS DUE TO DIFFERENT MICRO-ORGANISMS.

We will consider: 1, The varying virulence of the bacteria and their toxins during the course of an attack; 2, the reaction of these on the tissues, producing the histologic changes that extend from the fulminating gangrenous form, which is expressive of the most violent and acute inflammation, to the so-called appendicitis obliterans, expressive of the midlest tvpe of irritation and producing a chronic inflammation.

Like the colon, the appendix has a serous, a muscular coat consisting of transverse and longitudinal fibers, and a mucous membrane, which has tubular glands and lymphoid tissue. At its opening into the cecum is a fold of mucous membrane—the Gerlach valve. The movements of the apppendix are partly restricted by its meso-appendix, which does not always extend to its tip, and as a result may cause the appendix to curl upon itself during its vermicular movements. The histology of the appendix shows that, like all functionless organs, leading a retrograding existence, its self-protecting properties from circulation and phagocytosis are also restricted. With these premises we assume:

1. That all the bacteria found in the diseased appendix are also found in the healthy appendix and colon.

2. That a higher degree of virulence is the only cause whereby these organisms now irritate.

What, therefore, are the causes of the increased virulence of the bacillus coli and streptococcus? We know that an acute diarrhea or enteritis gives symptoms quite comparable to appendicitis, only more widespread. The bowel soon rids itself of the irritating fluid material, germs and all. But in the appendix drainage may not be possible, and from that time trouble begins. The micro-organisms which irritate the appendix as they do the gut, produce a swelling of the mucous membrane of the appendix, which tends toward occluding its lumen at any spot along its course, but more especially at its base, where is located the fold of mucous membrane known as the valve of Gerlach. It is then that the retained germs, growing in a limited area, rise in virulence, gradually, and at times produce a toxin so violent as to cause the same destructive changes on the substance of the appendix as would be produced by so much nitric or sulphuric acid, causing gangrene of the organ in mass. The streptococcus is chiefly responsible for this type. We know that if it is confined in its development, gangrene of the foulest type results, as took place in pre-antiseptic days when pus often remained several days in a wound, producing hospital gangrene, now so seldom seen, owing to antisepsis and drainage. We all know the rapid and violent clinical course of this type and parenchymatous gangrene of the accompanying appendix, pain and rigidity of the right iliac region (sometimes of the whole abdomen), high temperature and a rapid bounding pulse.

When the bacillus coli infects, the case starts with quieter symptoms; there is generally a retention of fecal matter, and on the absorption of most of the liquid portion a fecal concretion or enterolith results, glued with mucus, and containing many exfoliated epithelial cells of the diseased mucous membrane of the appendix. In every case where the writer has found a fecal concretion the case presented also a history of one or more previous attacks of similar nature as the present one. In other words, hard fecal concretions are the result of a long-continued retention of feces in the appendix, antedating the present attack. Here, according to the virulence of the toxin generated by the organisms, within and around the fecal concretion, will the case result in a local gangrene surrounding the area of the concretion, or else the toxins being of a milder character, simply keep up chronic irritation of the appendix, resulting in adhesions of the appendix in various positions, and also excite a perityphlitis causing adhesions of the colon to neighboring structures. It is this type that results in the so-called obliterating form of appendicitis, which simply means that the irritation, constant but never very violent, has succeeded in destroying the mucous coat at the bottom of the appendix, caused granulations to form and an adhesion of the sides from the bottom up takes place by granulation, exactly after the cicatrizing manner of a wound which we force to heal from the bottom by packing. In this instance extra-appendiceal abscesses may also occur, either at the base bounded by the ileum, colon and omentum, or even at a distance in various positions of the abdomen. Here comes a most important complication which so often veils the clinical signs to be expected from such an infection as has just been described, that is, the presence of a mixed infection. The streptococcus may suddenly appear and give to the chronic type an acute exacerbation. The temperature, heretofore ranging between normal and 100° F., may take a much higher course with a corresponding modification of the pulse. The saprogenic germs may by their toxins further cloud the course of the original infection.

THE ABORTIVE TREATMENT FOR APPENDICITIS.

When chronic adhesions have existed and the spot then becomes one of least resistance, it also becomes a favorite soil for the development of the tubercle bacillus, hence the type of chronic abscess, much like the ordinary cold abscess which may be found in connection with a diseased appendix. Sometimes the appendix has entirely disappeared or disintegrated in the tuberculous process, and nothing but the so-called pyogenic membrane, tough and unyielding, is present, the colon and ileum in that region being also masked by it. Finally, cases may present a combination of these various types to such a degree that it is perfectly safe to state the following as an axiom: At no time during any attack of appendicitis is any one sure of the extent

to which the appendix is diseased. If the infection were always a simple one clinicians might in time acquire such knowledge, but the constant possibility of the infection being of the mixed variety, giving most irregular symptoms, as to pain, temperature and pulse, and especially resulting in an uncertain condition as to the histologic integrity of the appendix, it follows that appendicitis is, of all diseases, the most anomalous. Unlike most diseases, however, there is for appendicitis a positive and safe abortive treatment. By abortive treatment is meant such as will destroy an affection at its inception—not when it has run its course almost to a fatal termination. An early and clean extirpation of the appendix as soon as possible after the diagnosis is made is the only positive and safe abortion of this disease, of which no man knows the course it intends to run in any given case. Appendicitis is absolutely a surgical disease. It does now and then tend to a spontaneous cure, as a boil now and then undergoes resolution without suppuration. Even in this case painful adhesions remain, which may necessitate the help of surgery. But the uncertain nature of the appendiceal infections tends toward an eventual fatal infection of the peritoneum. Hence surgery must remove this danger in every case. A fatality means that this truth was realized too late.

DISCUSSION

ON PAPERS OF DRS. DEAVER AND ROSS, SYMS AND LAPLACE.

DR. ROBERT ABBE, New York—The last chapter on this subject has not yet been written. We are often asked when we take out the appendix how long the patient has probably had his trouble, and one usually answers, "Oh, for some time." The question "how long was the appendix diseased before we took it out" is one of immense importance, and when it is settled in our minds we learn that the appendix once diseased is always diseased. I have fifty specimens, picked from many hundreds, which were distended with alcohol and hardened in it before opening. In this way you can reproduce the condition present during an attack of appendicitis. You can study its pathology and you will almost invariably find a stricture. There may be several. What do these strictures mean? This little diaphragm with the pinhole opening is evidence that your patient has had an ancient inflammation, creating stricture, and the latter has been a little bit swollen by inflammation. At the onset of an attack the stricture is closed and the appendix is distended beyond it. Pain develops. If there is sufficient power to drive fluid through the opening the attack subsides. The patient may be thus cured twenty times by medical means, but the stricture is getting tighter all the time. Take a patient at the age of 50, which is the time when urethral stricture often begins to give trouble, there will surely be a history of original inflammation ten to twenty years before. So also in appendix strictures. I have had cases where attacks had recurred for twenty years; the primary cause of the trouble was an original appendicular inflammation with a secondary stenosis. Bacteria had lurked in this, the only pocket of the alimentary canal, and finally gave trouble. These specimens show another thing, i. e., that concretions do not occur in more than one case in ten and that they do not consist of food or starchy products, but are made up of the thrown-off epithelium from a distant part of the appendix. It can not get through the stricture the way the liquid does, and all you will find on examining them is old epithelium, white corpuscles, detritus and a few crystals. These concretions are always behind the stricture, and you will never find one on the proximal side of it. Some authorities tell you that these enteroliths fell into the appendix, but this is not true. The stricture comes first, and the concretion second. When the concretions have formed there is a very tight stricture to hold them back, and acute inflammatory trouble follows. The essential thing to know is that when the patient has his first attack of appendicitis the disease is nearing its end, and you can easily tell your patient that he has had his trouble from five to twenty years. I repeat that the appendix once diseased is always diseased.

DR. R. H. GIBBONS, Scranton, Pa.—The easiest thing in connection with appendicitis is the diagnosis, but we should make the diagnosis of the diseased appendix before we have appendicitis. Long before we have any cicatricial tissue deposited in the lumen of the appendix showing the various attacks of appendicitis as demonstrated by Dr. Abbe, we have serious irritation, even localized inflammation and ulceration, at these spots. These evidences of disease in the appendix are to be found distributed throughout the mucous lining of the appendix, and when we have this condition we have certain peculiar symptoms which are erroneously termed "nervous dyspepsia," "entero-colitis," "colitis," and various forms of "dyspeptic" symptoms that each and every one of those "diseases" (?) simulate, all of which may be abated by the removal of the irritated appendix vermiformis. This so-called useless gland is not useless when it is in a healthy state. Many other "diseases" may be cured by the removal of the abnormal appendix, and over and over again I have operated for the chronic forms of appendicitis and succeeded in curing other conditions complained of. I have operated on a man who had been under the care of four of the best proctologists in this country; they treated him for "catarrh of the bowel" a long time, several years, without giving him help. I took out his tender appendix and he got well. I operated on the first day of this year on a case that had suffered for twenty years from a diseased appendix; during all of those years he was my patient and under my observation. With a large mass in the right iliac fossa at the time of his first attack, I was prepared to do the old operation of Willard Parker and Henry B. Sands, but the symptoms subsided under the treatment suggested by the late Prof. Alfred Stillé, who was the first to recommend the relief of peritonitis by cutting off all kinds of fluids and food. Rectal alimentation and the use of the late Dr. Kussmaul's tube were added to the treatment by our lamented friend, Dr. Pepper, and washing out the stomach thereby, as he originally suggested in this disease; so that the "new" treatment is at least a third of a century old. Dr. Stillé was also opposed to using opium, which was in contradistinction to the treatment of the lamented Prof. Alonzo Clark. Professor Stillé stated to surgeons that they would have to find the means, surgical means, of treatment of peritonitis, which, according to his teaching, was always due to either traumatism or to infection producing "blood poisoning" through reflections of the peritoneum, over organs, held in suspicion thereby, due to rupture of an abscess in some one organ or another. Dr. Stillé further stated that the appendix was more often the cause of peritoneal effusion of an infectious character than all the other causes combined. Twenty-three years after the day that I was graduated I went back to pay my respects to the old gentleman, and I asked him how he felt about the treatment of appendicitis or the surgical prevention of peritonitis at that time—the year 1897—and he stated that the treatment as introduced by Drs. Henry Burton Sands, Frank Hartley, Charles McBurney, Robert F. Weir, Parker Syms, Ernest Laplace and others, not forgetting Drs. Grant of Denver, Morton of Philadelphia, Joseph D. Bryant and William T. Bull, New York, was *the* treatment, and that the treatment insisted on by Dr. Deaver—early operation—was all right in every particular. Dr. Deaver has taken appendicitis and peritonitis out of the slough of despond, let me say, Mr. Chairman, for he has always, from his start in this work, stuck to the text: operate early! There is no time on earth to operate surely and safely excepting when you first get hold of a patient who is grumbling. Divest him of his clothing, put your fingers on the tender spot, his diseased appendix, and recommend operation, at once! Don't fight him, but deal with him kindly, persuade him "by a firm gentleness and a gentle firmness." Coax the family physician into line, too, as he is likely to be the colored gentleman in the wood pile who will make trouble for you and us all.

The idea of removing the appendix every time you have the abdomen open, as first suggested by Edebohls, is a good one.

Take it out and give it to the pathologist to fuss with, or put it to some other good use.

I wish to state that the case of twenty years' standing, above referred to, was seen a few days before I operated, by both Drs. Deaver and Laplace; each of us saw the patient independently, and each one recommended operation, entirely unknown to one another. The appendix was extraperitoneal throughout its entire extent. It was divided, all but the mucous membrane, by two constricting threads of old adhesion into three parts in length.

DR. A. J. OCHSNER, Chicago—Dr. Deaver has taught us to study the pathology of appendicitis in the living body. He has taught us that the appendix may be safely removed so long as no infection has escaped into the surrounding peritoneal cavity. He has proved to us that if this plan of treatment is followed there will be no complications, there is no occasion for drainage, and consequently there will be no subsequent ventral hernia, neither will there be troublesome adhesions. The patient will be able to resume his work in a short time and he is free from the anxiety over a possible recurrence. There can be no doubt to-day that it is the duty of every capable and safe surgeon to remove the appendix so long as he is confident that the infection is still confined to the appendix. If the diagnosis were made early and the cases at once referred to the surgeon there should be almost no mortality. No one has done more to impress these important facts on the minds of the medical profession than Dr. Deaver, and we all owe him a debt of gratitude for his splendid work in the direction of insisting on an early diagnosis and an early operation.

When the program for this meeting appeared with an abstract of Dr. Deaver's paper, it occurred to me that it would be interesting to make comparisons, because the conditions under which our work is done are very similar. Dr. Deaver has a large hospital in Philadelphia and I have a somewhat smaller one in Chicago. We have each a community tributary to the hospital that is very similar. I consequently requested my assistant to classify the last 416 consecutive cases of appendicitis which I treated at the Augustana Hospital. Instead of going back only one year, as Dr. Deaver's does, my series goes back almost one and one-half years. I followed the same classification that he has given you.

Of Dr. Deaver's 416 cases 275 were acute and 141 were chronic, while of my 416, 263 were acute and 153 were chronic —which demonstrates very well the similarity of the class of cases we get. As to the mortality in Dr. Deaver's cases, he had 37 deaths in the acute and one in the chronic, showing that in the chronic operations there is practically no mortality. Of my 263 acute cases I had 10 deaths and of my chronic cases 2 deaths, but neither of the latter should have occurred, one dying from pneumonia due to the anesthetic and the other one of acute uremia, due to the fact that I performed a nephrorrhaphy at the same time. My mortality is less than 4 per cent. in the acute cases while Dr. Deaver's is more than 13 per cent.; why should there be this difference? Is it because our patients were different, or is it because there is a fundamental principle to account for it? The difference is very plain, because only a few years ago my mortality in acute cases was higher than Dr. Deaver's is to-day, which, however, could be accounted for by the fact that my skill was inferior. At that time I followed the general plan laid down in his paper to-day, which is to operate on every case as soon as the diagnosis is made. In observing my cases I found that the mortality was almost entirely confined to the class of cases which were operated on after the first 36 hours from the beginning of the attack. The cases operated on after 48 hours gave some mortality, and those after 72 hours gave a still larger mortality, while those that came after 96 hours gave a very large mortality. From that time on the mortality began to decrease. It seemed clear that if we could operate on the cases which come to us in the interval and on those which come to us in the first 36 hours we could practically save them all, and if we could transform most of the others into interval cases we would insure a much smaller mortality. I believe that my experience proves that this can be accomplished if the method is employed which I have advocated for some time.

I have treated nearly two thousand cases of appendicitis and have followed this method for nearly ten years, although I had little faith in it at first and simply employed it in cases in which an immediate operation could not be performed because I could not obtain the consent of the patient or his friends. I now use this method in every case in which it seems probable to me from my former experience that the patient would not recover if operated on at once, and I attribute the low mortality in my acute appendicitis cases to this fact.

The method consists primarily in preventing peristaltic motion of the small intestines. We know that the peritoneum is capable of taking care of an enormous amount of infectious material, provided this is not carried by the peristaltic motion of the small intestines to every part of the abdominal cavity, but remains confined to a circumscribed area. This may be accomplished by prohibiting all food and cathartics from entering the alimentary canal and by performing gastric lavage. If we pay absolutely no attention to the intestinal obstruction which accompanies appendicitis, because it is not the cause but only the effect of the disease, it will give us no trouble whatever. If the patient suffers from nausea or vomiting or gaseous distension of the abdomen, we cocainize the mouth and pharynx, wash out the stomach and give absolutely no food and no cathartics by mouth until the patient has been practically normal for four days. Some of my colleagues have failed with this method, but on questioning them closely I have always found that they have disregarded one of the fundamental principles involved. A few teaspoonfuls of milk or broth or the mildest form of cathartics will give rise to peristalsis and will, of course, result badly. Again, the stomach may contain decomposing remnants of food or mucus, and if left without gastric lavage this will give rise to peristalsis. The fact that the patient has vomited does not indicate that the stomach is empty; in fact, it indicates the opposite. The complications of which Dr. Deaver speaks rarely occur when this method is employed. The intestinal fistulæ of which he speaks are due to the fact that the cases are operated on at the wrong time. In my 416 cases there were a number of intestinal fistulæ, all of which healed spontaneously in a few days.

During the period I have mentioned every patient suffering from appendicitis who applied was permitted to enter the hospital, without regard to his condition, even if it was plain that death was inevitable within a few hours. I will give a short abstract of the histories of all the fatal cases in this group of 416 patients in order to give a definite idea of their condition at the time of admission and the cause of death.

CASE 1.—A laboring man, aged 36, came into the hospital at the end of an acute attack of perforative appendicitis which had lasted about four weeks. I removed the appendix at once because it seemed as though in his condition it would be a safe operation. I closed the abdominal wound without drainage, thinking this would be perfectly safe, but the patient died of peritonitis on account of this blunder.

CASE 2.—A male, aged 21, came to the hospital with a severe peritonitis following a four days' illness. I placed him on this treatment for five days, giving him nothing by the mouth, feeding him entirely by the rectum. The second day I decided that I had made a mistake in my diagnosis because he showed such marked improvement. Instead of waiting until the attack had entirely subsided I operated on the fifth day after he entered the hospital and the patient died of peritonitis. Had the operation been postponed until the attack was entirely over he would not have died.

CASE 3.—A young man, aged 15, had diffuse peritonitis and was moribund when admitted to the hospital. No operation.

CASE 4.—A patient with diffuse peritonitis due to an acute perforative appendicitis. The operation was performed at once and the patient died of peritonitis. There was an abscess in the right iliac region together with a diffuse peritonitis. It seemed as though immediate drainage should be established. This patient would probably have died with any form of treatment.

CASE 5.—A very fat man, aged 30, was moribund and died within a few hours after entering the hospital from acute

perforative appendicitis the fourth day after the attack began. He had received on the day he entered the hospital, every hour, half an ounce of salts, which was the cause of his death. No operation was performed, as he was dying when admitted.

CASE 6.—This case might possibly have been saved by an operation. He was a very emaciated sickly child, 8 years old, suffering from perforative appendicitis for one week before entering the hospital. He had a mild form of diffuse peritonitis, and if his abdomen had been drained at once he might possibly have been saved. His condition was so low when he was admitted that it seemed to me he would have a better chance without than with an operation, but it is possible that my judgment was wrong in this case.

CASE 7.—A child, aged 4, was in a dying condition when admitted. No operation was performed.

CASE 8.—A child, aged 4, had received food and cathartics the day before coming to the hospital. It seemed to me when he entered the hospital that he was still on the safe side. I consequently operated at once. I thought an operation would relieve him, but he died from diffuse peritonitis. This case might have been saved by waiting.

CASE 9.—This case was one of diffuse peritonitis at the age of 44. He came to the hospital at the end of an acute attack, suffering from a circumscribed abscess. I made an incision at once and did an extensive operation, loosening many adhesions. He died of exhaustion after two weeks. I believe he would have lived if I had simply drained the abscess and had not removed the appendix from its deep location. The operation was too extensive in his weakened condition.

CASE 10.—This case was one of extensive diffuse peritonitis in a woman 32 years of age, who entered the hospital on the fourth day of her attack extremely ill. She was placed on exclusive rectal feeding. Gastric lavage was performed. She improved so that she could take liquids after three weeks. At the end of the fourth week I operated, removing a perforated appendix in a circumscribed abscess. All the intra-abdominal organs were diffusely adherent, so far as I could explore. Death resulted from pneumonia on the seventh day after the operation. The abdominal wound was normal.

Of these cases I believe the 2 that died in the interval should have lived. I think 2 cases at least, and probably 4, of the other 10 could have been saved. Five of the 10 patients who died were not operated on, and these are the only cases in the entire number of 416 which were not operated on. Four of these cases were admitted in a dying condition, and would not have been operated on by any one, and should consequently be excluded from the list, but this would leave the statistics open to the criticism that there might be a difference of opinion regarding the moribund condition. Case 6, although not operated on, should be charged to the method, although his weakened condition (he had been an invalid from infancy, being a rachitic child) practically precluded the possibility of a recovery.

During the same time I treated a number of cases of acute perforative appendicitis by this method who recovered but have not been operated on. These I have not included in this list because the diagnosis has not been confirmed anatomically. But there can be no reasonable doubt about the correctness in the diagnosis in these cases, and if counted they would still further reduce the percentage of mortality.

I will state, also, that all of the ten cases of acute perforative appendicitis which died had been previously treated by the use of cathartics and food by mouth, and that of all the cases which received neither food nor cathartics from the beginning of the attack there has been no death.

The fact remains that there is a distinct class of appendicitis cases in which the mortality after an immediate operation is especially high in which the vast majority of the patients may be saved if they receive absolutely no food nor cathartics by the mouth, the operation being postponed until it seems safe. A slight amount of rectal feeding, consisting of one ounce of one of the liquid concentrated foods in the market dissolved in three ounces of warm normal salt solution given by the rectum every four hours is sufficient. Small sips of hot water often repeated are usually borne well.

DR. J. D. SULLIVAN, Brooklyn—From this discussion it seems to be the general consensus of opinion that early operation is the proper treatment for every well-defined case of appendicitis. It appears to me that our knowledge of the disease makes it our duty to advise and practice early operative treatment as the only safe course to pursue. It is a great advantage to the patient to be able to close the wound and obtain primary union. This is one point I wish to make in favor of early operation. The sooner we operate after recognizing the disease, the better are our prospects for closure of the abdominal incision and primary union. The advantages to the patient and surgeon of closing the abdominal wound are so many and so great that I now practice this method in cases where I would formerly employ drainage; and with better results. If there has been some local peritonitis without the formation of an abscess, or even if there has been a moderate degree of general infection without the formation of pus, I usually wash out the abdominal cavity with a large quantity of saline solution, employing for this purpose a long glass tube attached to a fountain syringe such as is used for washing out the uterus, and having the water at a temperature of about 110 F. I insert the tube through the wound down into the pelvis, and while the water is flowing I move the tube about to the most distant parts of the abdomen so that the flushing is from the tube toward the opening in the abdominal wall. Having made use of three or four gallons of warm saline solution in this way I deem the abdomen sufficiently clean to warrant a complete closure of the incision. If I think the surface of the wound has become infected during the operation I sew up the peritoneum with catgut suture and only a portion of the wound in the structures external to the peritoneum and drain the wound outside the peritoneum. Experience has taught me that a limited amount of infection will be safely disposed of by the peritoneum and that the open tissues of the wound afford a good culture medium for germ infection if buried under the skin. By separating the limited amount of infection within the peritoneum from the unlimited degree of infection in the other wounded tissues we obtain much better results than if the infected wound were in open communication with the abdominal cavity, and many of the objections to through drainage are eliminated.

DR. LOUIS C. AGER, Brooklyn—I am not a surgeon but only a pathologist, and I want to speak on the question of diagnosis. I have a specimen of perforated small intestine which I think will interest the surgeons. The diagnosis was appendicitis and the appendix was removed. The specimen is of interest because it shows the condition of the appendix at the time of operation. The patient died a few hours after the operation, and the autopsy showed that an apparently normal intestine had been perforated by a lumbricoid worm about eight inches above the appendix, causing septic peritonitis and death.

DR. JOHN B. MURPHY, Chicago—I did not expect to discuss this subject on this occasion as it seems to be rapidly coming to a solution, notwithstanding the apparent difference between the two doctors in reference to the various methods. We have come to the conclusion to-day more unanimously than ever before in this Association that the time for the operation is within the first thirty-six hours. We are agreed on this as medical men; we are agreed on it as surgeons. If we are agreed on this one point, stop there. One gentleman has put the proposition, what does the physician do when he gets appendicitis? He sends for the surgeon, and he sends within an hour or two of the time he gets the pain. Can we as medical men, can we with practical uniformity, make the diagnosis in that period? Yes, it can be done by the medical man, and it is no longer necessary to get a surgeon to make a diagnosis of appendicitis. The time to send for the surgeon is immediately after the pain develops. I am glad to hear Dr. Ochsner take the position he does. We can, and should, avoid the mortality of 15 per cent. or even 4 per cent., and we can do so by diagnosing early, operating early and recognizing early the conditions present. Good operators within the limited period prescribed by Drs. Deaver and Ochsner prevent this mortality. If this is true what is our action? Just the same as it would be if a building is on fire, put the water on it now—not to-

morrow. Will you do an operation that might be avoided? Yes. Will you do an operation where the appendicitis can not recur? No. That patients do recover without operation no one can deny. The mortality should be reduced to one-half of 1 per cent. The diagnosis can be made early. If the saving of the lives of people is entrusted to us we have one thing to do and that is to act within the limited time.

DR. W. J. MAYO, Rochester, Minn.—I had said that I would not discuss appendicitis because it seemed to me this discussion often led to more harm than good, but I want to put myself on record as believing in the early operation. I believe that every attack of appendicitis, even if recovered from, calls for operation. If a patient has appendicitis and you can get him early he will almost surely get well from the operation, barring accident. The operation should be performed at once and the results will be almost uniformly good. When it comes to actual conditions there is a class of cases that comes to the surgeon when the most favorable time has gone by. Some years ago I operated on all cases at the time they were admitted to the hospital, and my mortality was from 12 to 15 per cent. This mortality took place in cases that came into the hospital in bad condition from the third to the fifth day. They were tympanitic, with a tendency to vomit, and showed symptoms of obstruction of the bowels. In those cases I had a considerable mortality. Taking the plan of treatment adopted by Dr. Ochsner I dropped my mortality from 15 per cent. to less than 4 per cent. I do not believe that we should let all of these cases come to the operating table right away. I simply say that in such a case the stomach should be washed out and food absolutely prohibited for from 24 to 48 hours, by which time you will be able to deal with these cases with comparative safety. I have lost two cases by waiting too long. I would, therefore, limit this treatment to a certain class that has furnished a large mortality; cases that you fear will die, but I would operate on them in from 24 to 48 hours, or as soon as it appears that the condition will warrant it. It is in these cases that previously I had my mortality, and by a radical operation not only was there the death rate mentioned, but also a high percentage of fistulas. I can only say that since I have changed my time of attack and handled these cases more gently I have had fewer deaths and a fistula is rare.

DR. JACOB FRANK, Chicago—I shall confine my remarks to one point in Dr. Ochsner's discussion. He stated that if the stomach was kept entirely empty and nourishment given by the rectum, it would prevent peristalsis of the bowels, thereby preventing further infection by extension. On this theory, I believe he bases his successful treatment of certain cases of appendicitis. If I am correct in this statement I must beg to differ from his views, and shall give my reasons for doing so: In 1883 I published a case in the *Correspondenzblatt* where rectal alimentation produced a retrostalsis, and the patient vomited the food injected; this occurred several times in the same individual. After this I made observations on dogs, and could produce the same symptoms in a certain number of them. In THE JOURNAL of the American Medical Association for 1901, p. 429, a very instructive article by Albert Bernheim, M.D., of Philadelphia, will be found, where he made observations on the human and on animals concerning retrostalsis. I know that many operators will agree with me that even a little water injected into the rectum in many cases produces vomiting, and general practitioners have often observed patients who became nauseated from a small enema. I have often observed patients get a violent colic from a small amount of fluid. In order for the Doctor to prove his theory he will have to disprove the fact that a retrostalsis can take place from injecting food into the rectum.

DR. DEAVER, in closing—I am glad and sorry that I have had such an extended discussion. I was going home on the 5:20 train, but I could not possibly leave Saratoga under these circumstances without replying to the distinguished gentlemen who have kindly discussed my paper. I agree with Dr. Abbe as to the pathology. It resolves itself into a question of drainage. Dr. Gibbons has brought the subject out very clearly, and it is very interesting to note that he has advanced views on this subject. I recollect distinctly something of Dr. Stillé's idea on idiopathic versus traumatic peritonitis. I do not understand all of Dr. Ochsner's statements. I do believe, however, that he does not get the class of cases I do. You may say that can not be, but I look into my bellies and know what I am dealing with, while Dr. Ochsner guesses at what is going on. I have recently returned from a trip to Berlin, and while there I understood that Sonnenberg claims that he could differentiate between acute catarrhal appendicitis, fulminating appendicitis, perforative appendicitis, the different varieties of peritonitis, etc. I can not agree with him, although this may be stupidity on my part. The more I see of appendicitis the less I know about it, and the more bellies I open the more impressed I am with my ignorance. The probabilities are that if I were to treat certain cases, on which I now operate, by starvation I might get better results, but I have not been so strongly impressed with Dr. Ochsner's argument to induce me to change. Personally, I have tried the treatment. Drs. Ochsner and Mayo may recollect my taking them into my receiving ward on one occasion and showing them an advanced case. This was one of the cases on which I would not operate. Dr. Ochsner suggested that I try his treatment when he thought the patient would pull through the attack. I did, and the patient died. Autopsy revealed a belly full of pus. So many of the cases coming under my care of this type, having been sick from five days to three weeks. Another thing that makes me think that there is a difference is because Dr. Ochsner gets no fecal fistulæ. I see fecal fistulæ in a number of cases each year. A patient may have a fistula which will heal in time and he may have one which will not heal spontaneously. How Dr. Ochsner's treatment can dispose of general purulent peritonitis, peri-appendiceal abscess in connection with a pelvis full of pus: how Dr. Ochsner's treatment will prevent pressure necrosis from a collection of pus: how the treatment will prevent secondary abscess, pyelophlebitis, metastatic liver abscess, general sepsis, endocarditis and so forth, I am at a loss to explain, and as Dr. Ochsner has not explained and has made no mention of such pathologic lesions I have no hesitancy in saying that he sees an entirely different class of cases of appendicitis than I do. The class that he sees evidently get well by doing nothing. In the speaker's experience the pathologic appendiceal storm has spent its force within a comparatively few hours of the onset of the attack in the cases that do not recover practically by doing nothing; therefore, unless the treatment outlined by Dr. Ochsner clears up the debris and leaves the field of attack as it was before the storm, it can not possibly be of any specific service. In short, to accomplish that which he would make us believe it does, it must make the peritoneum capable of absorbing almost anything in the shape of pathologic debris.

Washing out the stomach and giving nourishment by the bowel where the stomach is irritable, I am sure most of us do both before and after operation; therefore, with this much of Dr. Ochsner's treatment I agree. I take exception to giving opium and especially to the use of any proprietary agent; the latter I have seen on Dr. Ochsner's patients. I am very sure that the mortality of appendicitis will be increased rather than lessened by Dr. Ochsner's treatment. Not in Dr. Ochsner's hands, perhaps, but in the hands of those who are averse to early operation, thus giving them a pedestal from which to proclaim against the radical treatment.

DR. SYMS, in closing—This has been a most interesting and instructive discussion, but the hour is so late I will say very little. Undoubtedly we must be guided by the experience of each other and by our own experience too. In my own experience both from operation or following operation I believe I have seen more cases where there is involvement of the general peritoneal cavity. In other words, the cases in which the pus was localized, no matter how extensive it was, they all recovered. I think we are all agreed that operation should be done in every case in the early stages. The question of difference now is in those cases which we do not see until about 36 hours have elapsed. Shall we operate on those cases at once or wait until about thirty-six hours later? I should not hesitate to wait a certain length of time could I be sure that the process would remain localized and the pus would remain as an

abscess. There is a certain proportion of cases in the list of fatalities where there had been a localized abscess, but before the time of operation the abscess had ruptured, general peritoneal involvement following. There is your danger in waiting. It was my rule at first in these cases where I felt there was a perforated appendix to operate almost immediately, but I have departed from that rule of late. I have found that many of my cases come in in a very much depressed condition. Then to the fatigue of moving as well as the ride are important, and it has been my rule to simply wait until the patients have had a moderate period of rest in bed in the hospital. Where vomiting exists this is a cause for waiting. We always resort to lavage in cases of vomiting. When the patient has come to the hospital with a localized mass in his right iliac fossa, whether his history points to perforation of the appendix or not and you think he could safely take ether I always operate and never wait. By this means I believe we avoid danger and do not increase it. Under no circumstances has death resulted from the operation.

DR. LAPLACE, in closing—Dr. Ochsner's position presupposes that he can tell what is going on in the abdominal cavity. He presupposes that this abscess has not burst nor is about to burst. The last case I operated on was only taken sick seventy-two hours before. I insisted on immediate operation. As I opened the abdomen I found a large mass. To have waited twenty-four hours would have been the death of that boy. I agree that in a great many cases surgical interference and the swabbing of the peritoneum causes peritonitis, but that simply means we do not know how to treat peritonitis. We have more severe cases of peritonitis to treat than slight ones. When we succeed in curing these bad ones we surely should be able to cure the mild ones. Our efforts must be toward doing the operation as soon as possible and apply those principles in the treatment of peritonitis that we would anywhere else. Why should we delay an hour in the treatment of or operation for peritonitis? I agree with Dr. Ochsner that his treatment is ideal when it is impossible to operate.

ALCOHOLIC EPILEPSY.*

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The term "alcoholic epilepsy" is comparatively new in medicine and describes a class of inebriates who have convulsive symptoms resembling epilepsy. Some writers call it a form of delirium tremens and acute alcoholism; others consider it a distinct epilepsy due to the toxic action of alcohol on the brain centers. In some instances the craving for alcohol precedes the paroxysm or epileptic fit like an aura or premonition. Sometimes the convulsion is intensified and increased by alcohol, or in other instances it may be neutralized and the direction of the symptom changed. The sudden maniacal impulse to become narcotized by alcohol, as seen in the dipsomaniac and periodic inebriates, closely resembles epilepsy. A number of cases have been noted where a distinct convulsion preceded the use of spirits and was followed by a continued impulse to drink. When this craving was neutralized by treatment, the convulsion returned. When spirits were resumed the epileptoid symptoms disappeared. Convulsive symptoms and paroxysms of brain disturbances are often due to toxins, and yet, when they occur with great uniformity, other causes are both active and predisposing.

Convulsions of a uniform type following the long-continued use of alcohol are called epileptoid. It is not clear whether this uniformity of type in appearance is due altogether to the action of alcohol, for the reason that the use of alcohol is in many cases a symptom and not a direct cause. As in other psychoses and neuroses, the dividing lines between the use of alcohol as a symptom or an active cause, can not be easily traced.

In all these cases hereditary tendencies and predispositions, together with the present conditions of vigor or weakness, are the main factors in altering the type and form of degeneration present. So many factors make up the so-called diseases of alcoholism and epilepsy that it is impossible at the present time to make a clear discrimination. My purpose in this paper is to group some of the general symptoms which appear most frequently in a clinical study of alcoholic epilepsy. The following classification is sustained by the study of a large number of cases, and will give some idea of the diversity and complexity of the causes: 1, The convulsive and maniacal types; 2, the demented and confusional form; 3, the trance automatic and psychic classes. These divisions are clearly described by the history of some illustrative cases.

THE CONVULSIVE AND MANIACAL TYPE.

In the first type the following is a descriptive case:

CASE 1.—G., an iron merchant, aged 44, had used spirits from infancy, given at first by the physician as a tonic, then later as a stimulant. He was first intoxicated during his college life, and up to 40 years of age, while in business, he drank daily small quantities of spirits. During a severe nervous strain, he had an attack of profound drunkenness, marked by excessive muscular and mental agitation. During this period he both walked and talked incessantly and was very irritable, then he became stupid and slept twenty-four hours.

This was followed by another attack of drunkenness with an increasing period of sleep and prostration. Then came recovery with a free interval of several months during which he was a total abstainer. Similar attacks continued with increasing frequency until at present they occur every two weeks. The attacks are convulsive, marked by mental excitement and trembling, which continues for hours. In some instances he bites the tongue and the stupor which follows is profound and long continued. His mind is affected and delusions of persecution with great irritability follows.

CASE 2.—In the second illustrative case, the use of alcohol began at 30, following exhaustion and business strains in a previously healthy man, who was an inventor. Spirits were used irregularly at night for the purpose of relieving the state of exhaustion. Five years after he came under my care for some strange symptoms occurring when asleep. He would go to bed partially intoxicated and in the night have a convulsive attack; then beat the bed, turn over the chairs of the room, bite his tongue, fall into a deep sleep and awake next morning without any recollection of what had happened. During the day he was maniacal in his anger and hypersensitive to every exciting condition. He had delusions and hallucinations and feared injury from every one he came in contact with. The removal of alcohol lessened many of these symptoms, but the fits at night continued.

These two cases are examples of a class of inebriates in which intoxication is of a sudden maniacal type followed by muscular explosions of extraordinary character and ungovernable conduct. Such cases are not infrequently seen on the street in the fighting delirious drunkard, who at home beats his wife and family, resists arrest and may commit all kinds of violence on the slightest provocation. These attacks are usually followed by profound stupor, and in many of them injury of the tongue and convulsive twitchings of the voluntary muscles are noticeable.

DEMENTIA AND CONFUSIONAL STATES.

The second form is that of dementia and confusional states, in which the epileptic symptoms are prominent and may be illustrated in the following cases:

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

CASE 3.—A physician, aged 45, with a very laborious practice drank whisky three or more times every day with much regularity. He was never seen intoxicated, but was considered generally stupid and dull and inclined to fall asleep on every occasion. This was attributed to his use of spirits and over-work. He was attacked with severe chills at night, associated with spasmodic twitchings of the muscles, which after a short time were followed by profuse perspiration and profound sleep. Quinin and whisky were given in large quantities, supposing the attack to be malarial. The chills and convulsive trembling increased and the coma following became more prolonged. His mind failed and he was taken to an asylum where the epileptoid characters of these symptoms were discovered.

CASE 4.—The second example was that of a brewer, aged 44, who drank beer daily and spirits at irregular intervals. He was bloated and very dull and stupid in his mind. He complained of sudden attacks of trembling and inability to control himself. These attacks occurred at irregular intervals and were followed by periods of great dulness and apathy. He became melancholic and talked of some great disaster and peril to his life and property. His family physician ordered whisky alone. This gave temporary relief, but was followed by a return of these muscular tremblings with increasing stupor and dementia. By my advice, all spirits were removed and the convulsive character of the symptoms disappeared, but the dementia continued and terminated in death three years later.

CASE 5.—The third example was that of a civil engineer who had drank for years regularly many times a day. He was called a moderate drinker, having never been intoxicated. For three years past he has complained of great nervous exhaustion in the morning, which at times was so intense as to oblige him to return to bed. There were no preliminary symptoms of these extreme depressions the night before. His sleep was sound and without dreams. It was found that during the night he had attacks of muscular trembling, during which he would moan and roll up and down the bed, sometimes striking out with his arms wildly as if in great distress. The family physician diagnosed nervous and brain exhaustion and ordered strychnin, cinchona and spirits.

The symptoms of exhaustion increased and attacks of shivering and so-called chills occurred during the day, sometimes lasting for ten minutes, and were followed by prolonged sleep. Often the sphincters would relax and he would be unconscious of the consequences. The treatment was changed to bromids and bromidism followed, resulting in death.

These examples are not uncommon, but the epileptoid conditions are rarely recognized. The dementia and confusional states are treated as primary. Whatever the real condition may be the convulsive tremblings and unconsciousness point to a form of epilepsy.

AUTOMATIC TRANCE AND PSYCHIC CASES.

In the third class are included the automatic trance and psychic cases. These are more numerous and obscure than the others and have only recently attracted attention. In literature they are described as double consciousness, epileptoid trance states and automatons. I have studied a number of histories of persons of this class under the title of alcoholic or inebriate trances, the principal symptoms of which were sudden blanks of memory, followed by automatic acts which the person never remembered. Many of these cases gave no evidence of disease, but seemed to be conscious and clear up to a certain point, then a sudden partial narcotism followed in which some parts of the brain were intact, but memory and consciousness were suspended. In other instances short periods of alcoholic stupor or excitement preceded this condition. The narcotism from alcohol was always prominent. In some instances strong hints of epileptoid symptoms were present. Following is an example:

CASE 6.—H. B., a physician, aged 38, who drank spirits steadily for ten years, then had sudden blanks of memory, followed by strange, unusual acts. He drank at meals and before retiring and smoked excessively. He was never apparently intoxicated, but for some time had been growing dull and irritable. He would have attacks of anger or depression at real or imaginary causes, go to sleep in his chair or any place he might be, then awaken and go about his usual work, but be unable to recall any event that had happened.

During this blank or trance period, he would visit patients, administer remedies and act with apparent self-control. The only unusual symptom was gravity of manner with prolonged staring, and indisposition to talk on any subject outside of routine work and this only in monosyllables. These trances increased in frequency and were preceded by a chill with sharp muscular shivering and emotional disturbance. Under my care we were able to trace much mental disturbance before the attack, while during the attack he was clearly in a demented condition. The withdrawal of the spirits resulted in restoration.

CASE 7.—In a second example, a farmer who had drank steadily for years, would suddenly stop all work and without reason or motive go to bed and remain on his back perfectly still with his eyes open. When spoken to, he answered rationally, but would give no explanation of his conduct. In an hour or more he would arise and go back to work as if nothing had happened. It was particularly noticed when he arose from the bed he did not recognize the night from the day, but would go on with the work in the night just the same as the day. When told it was night he seemed surprised, but continued to be active with some work by lamp-light. After a sleep he recovered and had no recollection of what had happened.

He continued the use of spirits regularly as before and a distinct connection was traced between the spirits and these trance states. These attacks increased and were preceded by more pronounced unreasonable conduct, such as rushing out of church, leaving his horse and wagon in the street or in the field, and seeking his home and bed at once, despite all obstacles. The trance state following increased in irregularity and duration. He finally died suddenly.

CASE 8.—A third example was an inebriate, a traveling man, who drank with great regularity for months at a time and never seemed intoxicated. Suddenly he would stop all business and manifest religious proclivities, attend churches and prayer meetings, take part in the Salvation Army, then after a day or more go to his room, sleep a few hours and start out on his accustomed work.

After an interval of from a few hours to several days, he would recover and be unable to recall any events which had happened in the interim from leaving his business, showing religious fervor, and returning to business again. He depended on his notebook for evidence of where he had been and what he had done. To his customers, during this trance state, he was excessively polite, bland and clear. He refused to drink, but smoked continuously. On recovery from the blank period he complained of great depression of spirits and commenced to drink again. It was evident that these sudden delusions and religious fervors followed unusual efforts and business strains. During the attacks there was loss of appetite, great pallor and extreme uneasiness and inability to sit still or converse. This man fell into the hands of a quack and died of some obscure disease.

Other examples less prominent, exhibiting a great variety of complex symptoms, have been noted. In most of them there is much uniformity in the symptoms, particularly in the sudden alterations of personality and conduct and the automatic trances which follow. When these persons come under medical care, explosive impulses are considered signs of insanity and the blanks following are regarded as dementia. Thus a moderate drinker may commit some overt act, then fall asleep and go about in a dazed condition for some time. This is an epileptoid state. Not unfrequently such cases are brought to the asylum and when they awaken have no

conception of why they came, and afterward console themselves with the idea that they must have been drunk at the time. In some instances, evidently, the most prominent early symptom is a sudden maniacal impulse to drink to stupor, and on recovery the trance condition begins.

Gourmands and wine drinkers of this type display most unusual conduct or paroxysms, associated with chills or profuse sweating followed by stupor, then the dazed trance state follows. A number of cases under my care have but indistinct recollections of events preceding their admission for days and sometimes weeks. To their friends their conduct was strange, but the general symptoms were not those of alcoholic intoxication, but rather of general stupor from some brain trouble.

In these trance cases there is not necessarily any sudden explosive symptoms, but more often a sequence of mental degeneration, noted by defects of reason and emotional instability. In these three classes nearly all alcoholic epileptics may be grouped. The paroxysms and explosions of nerve energy, also hallucinations and delusions, are probably always present. Acts of violence, homicidal impulses, sudden chills, followed by motor spasms and sleep, are most significant symptoms.

A number of inebriates suddenly develop delusional states which are commonly seen in nearly all epileptics. Delusions of grandeur or fear of sudden death from injury, passing off in a short time, are intimations of epilepsy. These symptoms following or associated with the excessive use of alcohol are still farther confirmations. There can be no doubt that alcoholic epilepsy is increasing. In a recent examination of two hundred cases over 50 per cent. showed well-marked symptoms of epileptoid states. Inquiries indicate the increasing frequency of convulsive symptoms, resembling epilepsy, and there can be no doubt that these symptoms are coming into greater prominence yearly.

ETIOLOGY.

In some personal studies made ten years ago epilepsy was noticed in 5 per cent., and obscure convulsive symptoms associated with inebriety were recognized in, at least, 10 per cent. more cases. In all not over 15 per cent. of the cases then studied exhibited symptoms of this condition. In the police records the number of convulsive spasmodic intoxications with strange symptoms of mania and sudden nerve explosions of conduct have been known to occur in over 50 per cent. of all the cases. They are termed delirium tremens cases in many instances and the convulsions which occur are all considered part of the alcoholism from which the patient is suffering. Many of these police-court cases with well-marked epileptoid symptoms die before the later stages of epilepsy are reached. It is a fact that has not been recognized that sudden and convulsive intoxications are very often followed by pneumonia and death. Pneumoparesis seems to be the special form of disease which follows. In the first class of epilepsies which I have noted, these sudden pneumonic collapses are very common. In the second class of dementia, cerebral hemorrhages and nephritis are also common sequences. Homicide and suicide are frequent in both these classes. In the third class of trance cases well-marked epileptic convulsions are more pronounced.

In both of the other classes epilepsy may appear in its classical forms and inebriety subside, or the use of spirits may continue in diminishing quantities. In all these cases acute inflammations of the kidneys, of the liver and stomach, may occur suddenly, followed by death. Well-marked classical epilepsy, seen in an inebriate, is of short duration.

INFLUENCE OF COMPLEX ALCOHOLS.

The increasing prominence of these epileptoid symptoms in the inebriate of to-day is apparently traceable to the changed form of spirits used. While it can not be stated authoritatively that this is the most prominent cause, it is evidently very influential and responsible in a large degree for many of the symptoms which follow. Within a few years highly fortified and flavored alcoholic drinks have become very popular, such as bitters, vermouths, absinthe, cocktails, high-balls, champagnes and other high-sounding names for fortified and strong-flavored alcohols. These drinks are nearly always composed of new and cheap alcohols, and frequently wood-spirits and often whisky from potatoes and beet roots are used, depending largely on the price in the market. These alcohols are concealed by flavoring substances, such as bitters and syrups, the purpose of the dealer being to increase the profit and make the drink attractive.

When these different drinks are given to animals, well-marked convulsive phenomena follow. The intoxications are always sudden and paroxysmal. Champagnes resemble these drinks in their effects only the period of exhilaration is longer and more intense and the coma following slower and more profound. By these mixed drinks the blood is driven to the brain with great violence and vasomotor paralysis comes on early, in some cases resembling a shock from injury. The control centers of the brain are very quickly broken up and the degree of intoxication is marked and prolonged. The bitters, absinthe and cocktail compounds have a peculiar paralyzing action on the sensory and motor centers. This resembles toxic convulsions in the disturbance and explosive character of the symptoms. In club-houses and in high-class bar-rooms where these drinks are popular, the exhilarations and stupor following seem to have a direct connection with the spirits used.

Among the lower classes and in cheap bar-rooms the same convulsive class of intoxications with wild fitful manias and heavy stupors are seen. How far wood alcohol is used in these highly-flavored drinks can not be ascertained, but every year the production of this alcohol is increasing beyond the normal demand, and this excess, selling at half the cost of other alcohols, is used up in some unknown way. The cheap brandies and whiskies, no doubt, contain this form of spirit. The large importations of bitters and absinthes and their manufacture in this country are also evidence of the changes in the character of the drinks used. The cheap champagnes manufactured in this country, while less irritating than foreign drinks of this kind, are more largely used than ever. The physiologic effect is that of intense irritation, congestion and paralysis.

It is the form of alcohol that is dangerous, not the compounds mixed with it. In the experiments of Dumont's, in which various alcohols were given to dogs and goats, it was proven beyond doubt that complex alcohols were convulsive in their action, producing local as well as general paralysis. The more complex the alcohol the more dangerous it was. Beyond the influence of mixed alcohols in the etiology of these cases, there are to be considered the neurosis and psychosis, both from hereditary surroundings and bad living. There is in many cases predispositions for nerve explosions which makes the person more susceptible. This must be taken into account in estimating the symptoms.

DIAGNOSIS.

The diagnosis in these cases is usually not difficult. While the general toxic states are alike differing only in minor particulars, there are sometimes very striking variations which have apparent connection with causes that are known. It is evident that the patient who drinks quantities of mixed alcohols and develops epileptoid symptoms is suffering from some form of toxic concussion, manifested in this way.

In other instances, the accumulation of toxins, formed both within and without the body, concentrate on the nerve centers, producing explosive symptoms. The masked cases are always difficult to determine except from a careful study of the habits and surroundings of the patient. The sudden onset of strange, unusual symptoms suggest epileptoid conditions. The excessive use of spirits preceding the paroxysm or fit are always significant hints of this condition. In a recent case under my observation, a moderate drinker after two glasses of champagne became delirious, maniacal, and while walking to his room had a distinct convulsion. This was the culmination of a long premonitory period in which the toxic symptoms showed the tendency to take on this form.

PROGNOSIS AND TREATMENT.

The prognosis is always grave and unless the alcohol is removed at once the prospect of intercurrent disease or death or pronounced epileptic symptoms is very serious.

In the treatment, total abstinence from all spirit compounds with brisk elimination, restricted diet, nerve and brain rest continued for a long time give the only hope of restoration. Often a radical change of business and surroundings is most essential for successful treatment.

SUMMARY.

Some of the facts I wish to make prominent are:

1. Alcoholic epilepsy is increasing rapidly in this country.
2. It is a psychosis and neurosis which should be recognized, having distinct symptoms, the recognition of which is imperative in the treatment.
3. Where the toxic symptoms are convulsive and explosive and come on suddenly, the future of the case is very ominous and the warnings from these symptoms should be heeded.
4. The connection between mixed drinks and these spasmodic symptoms are traceable and should be considered in the prognosis and treatment.
5. The treatment and curability of these cases can be carried on with great hopefulness, and undoubtedly in the future will become a prominent part of the work.

DISCUSSION.

DR. C. H. HUGHES, St. Louis—I do not agree with all that Dr. Crothers has said on the subject, among other things being his assertion that the sudden onset of alcoholic epilepsy is the gravest form of the disease. The first case of genuine alcoholic epilepsy that ever came under my observation, outside of a lunatic asylum, occurred for the first time in an individual who was on a drunk. It was the first attack of this kind that he had ever had. He was seized just as Caesar was in the market-place at Rome, although he sat at the drinking table and fell under the table, convulsed and unconscious, and with frothing at the mouth, and the usual sequelæ of a well-established case of severe epilepsy. I was interested in that case, of course, because I saw it in its inception, and I then for the first time knew of alcoholic epilepsy. I wondered if the man were going to become a constitutional epileptic. I did not know so much then on the subject as I do now. I had not then been superintendent of an insane hospital, as subsequently I saw several hundred patients daily. I was then a young army surgeon, not 22 years of age. I took this man, who was a personal acquaintance of mine, to my hospital and took care of him and nursed him through the paroxysm. He went to sleep after the paroxysm had passed off and he slept in the hospital until the next morning, when his recovery seemed complete. I have watched that man ever since and he is living to-day and has filled some important positions in life. To my knowledge, he has never had any similar attacks. He has modified his habits of drinking. I told him exactly the condition he had been in, and I think I frightened him into a better life. This was purely a case of alcoholic epilepsy. Of the existence of this form of epilepsy I have never since entertained a doubt. Alcohol is a most potent causative and developmental factor in the generations that immediately succeed inebriate lives. The tables of Mognan and others have clearly established this.

DR. J. P. MCBRIDE, Los Angeles, Cal.—I recall a case of this condition in a young man about 25 years of age, who was a very light drinker. About once a year he would go on a drunken spree and he always had an epileptic attack during the continuance of this condition, which would usually last from three to four weeks. During the intervals between these sprees he never had any attacks. At the age of 26 he suffered from delirium tremens and died, and during this last spell of drinking he had suffered from very frequent epileptic attacks. It has occurred to me to ask the Doctor what has been his experience in this line and whether, if these cases abandon the drinking habit they get well or if some of them get well, and about what proportion.

DR. JAMES H. LLOYD, Philadelphia—I think there is no subject more obscure, nor one about which we ought to dogmatize less than the subject of the etiology of epilepsy. I have listened to the paper of Dr. Crothers with a good deal of interest. I think we may admire Dr. Crother's skill in psychologic analysis and I believe his large experience in this class of cases entitles him to respect and deference; yet in some ways I hardly feel like following him in all that he has said. In the past I have had relations with hospitals containing large numbers of epileptics; I have seen a great number of them, but I have never quite assured myself that there was any distinct form of epilepsy that could be called alcoholic epilepsy. I grant, of course, and we all know, that there are plenty of epileptics who are alcoholics; that there are plenty of epileptics who drink to excess, who get drunk; but that we have a distinct class of epileptics whose disease bears a relationship to excess in alcohol is a question, about which, as I say, I will not speak dogmatically, but about which I have always felt very doubtful. My feeling has been that we should regard alcohol as an exciting cause of epilepsy, a contributing cause, but not necessarily the essential cause. There are a great many things that will cause a convulsive attack; for instance, uremic poisoning, the poisoning which occurs in the pregnant woman, an injury to the brain, the poisoning of scarlet fever or the effects of some other diseases; all these act as exciting causes of convulsions, but we do not say that we have a uremic epilepsy; that we have a scarlet fever epilepsy, etc. We know that these factors act on the nervous system and produce epileptic attacks. My belief is that that is practically what we have in the cases of alcohol producing these epileptic attacks. In other words, I think if you take a man who is perfectly normal, who has no distinct tendency toward epilepsy, you can not make an epileptic out of him by making him drunk. If this could be done, I think a good many more of the American population would be epileptics. You can not make epileptics out of inebriates, but you can make inebriates out of epileptics; and that is a very different thing. There is a tendency in certain forms of epileptics to become inebriates; it is a part of their degeneration; it is a part of their run-down nervous system. After the onset of the epileptic attacks, they may take to drinking and the epilepsy in that case acts as a predisposing cause of their drinking, as much as alcoholism is a producing cause of epilepsy. It is hard

to say which has occurred; it is hard to decide which began first. I think we must consider this matter carefully and not dogmatically. This whole subject has to be settled with the greatest accuracy and care, and I am not certain that we have yet at hand the method or the knowledge that will permit us to say positively that we know what is the cause of epilepsy. I feel that this is an important question, because, as neurologists assembled here, we do not want to put ourselves on record too absolutely; we want to leave our minds open in reference to this whole subject.

DR. J. M. KENISTON, Middletown, Conn.—In reply to the question asked by Dr. McBride, I might state that in Middletown we have had a number of cases where the epilepsy has arisen in the victim of chronic alcoholism, and in these cases the symptoms did not disappear on the removal of the alcohol. The seizures are apt to be rather infrequent, from 4 to 10 yearly, some of the cases having remained without attacks for a year or more. My experience has been somewhat limited in these cases, and has been confined entirely to male epileptics. I feel from my experience that there is rather more of a tendency to dementia in this class of cases of epilepsy than in any other, and that moral indifference is one of the inevitable sequels of alcoholism. The onset of all my cases occurred in late middle-life.

DR. A. B. RICHARDSON, Washington, D. C.—I agree that the class of cases the Doctor's paper describes are found in the experience of all of us, and the only question I shall raise is in regard to the interpretation of them, and in regard to the erection of this new form, or rather special form of epilepsy called alcoholic epilepsy. I think he will agree with me that the class of cases he describes arise also from other causes as well as from the excessive use of alcohol. Take, for instance, the acute forms of the disease—they are frequently produced by other causes and, in fact, I recall but very few cases where they could be attributed to excessive use of alcohol. Now, I think it is always better to keep our classification of disease just as simple and practical as possible. In any case addicted to the use of alcohol, especially where the use has extended over a long period of time, occasionally you will have convulsive attacks. Should all of those attacks be called epilepsy? I do not suppose that the Doctor would agree that they should be so called. As the last speaker has stated, convulsive attacks, of course, occur in a great many diseases. The excessive use of alcohol acts as an irritating cause in some manner or other to produce these epileptiform attacks. I think we all agree that occasionally the excessive use of alcohol may produce a typical epileptic attack. But we have a great many other causes also, and you may as well call every one of these a typical form of epilepsy. The question is whether, as our knowledge is at present, the condition which he has described is peculiar to this cause of the disease. I think we ought to restrict the term "epilepsy" to that form of the disease which is permanent in its manifestations and frequent in its occurrence, and not apply it to convulsions which come on from irritating causes now and then.

DR. WILLIAM J. HERDMAN, Ann Arbor, Mich.—I think we all recognize the fact that chronic alcoholism may play a part in the production of these epileptic convulsions, just as it acts as an agent in the production of dementia. There is in all these cases due to chronic irritation a mental reduction which undoubtedly is structural in character. Now, as has just been said, that reduced structural condition can be brought about by many other causes than alcohol. We recognize a great many other causes producing it aside from alcoholism. It would have been very interesting to me if the Doctor had added to his paper some information concerning the previous history of these cases. Some of them were evidently cases of acute alcoholism; others were cases of chronic alcoholism, but if in all of them he could have given us evidence of hereditary alcoholism in their ancestors, it would have enabled us to arrive at conclusive decisions along the lines with which we are all familiar. These cases of chronic alcoholism in many cases terminate in epileptic manifestations. I do not recognize in the description he has given of these cases that they were different in any particular from the epileptic attacks due to other causes and, therefore, that does not justify a separate classification, and as has just been said, if we should put into a separate classification each case of the condition according to the factors producing it, we would have a great many more classes of epilepsy than necessary.

DR. RICHARD DEWEY, Wauwatosa, Wis.—We know that it is a striking fact regarding this class of cases (of which I have happened to see a large number) that in some cases the epilepsy or any convulsive manifestations have not been present, so far as one can learn, at any other time, except in conjunction with alcoholic excess. There seemed to be no convulsive attacks except when the individual was heavily under the influence of alcohol, and the number of attacks was frequently very small, in some cases occurring but once or twice in a lifetime. Then again there are other individuals who have never used alcohol to excess who have had but a single attack in a lifetime, or perhaps may have had two or three attacks in a lifetime; this makes the matter more obscure. One other point: the cause to which Dr. Crothers has referred, of a toxic effect being produced by the use of an inferior class of spirits, especially wood alcohol, would not apply to all cases, for I have seen cases largely where the patient used only a very good quality of spirits.

DR. F. SAVARY PEARCE, Philadelphia—The subject is most interesting and I will simply detain you for a few moments in regard to the treatment of these attacks. I believe that a good many of these attacks or epileptic phenomena are due to congestion of the brain itself and, even when the patient is in an acute alcoholic state, he has, of course, a congestion of the brain. I had under my care only a few days ago a gentleman who has a very good past history in every way. He was suddenly taken during the recent warm spell with a typical attack of epilepsy. I saw him when he was in the third convulsion which he had had during four consecutive hours. The sphincters were intact except in the third convulsion; and it was a typical case of epilepsy as regards all three of the convulsions. I promptly bled the man, withdrawing over a pint of very dark blood, which seemed to be the most rational form of treatment. The man improved at once and in a week he was apparently well. I believe that this form of treatment is the proper method whether alcohol is the cause of the attack or not. In this condition the brain congestion itself at the moment is responsible for the epileptic phenomena.

DR. HUGHES—I want to ask the Doctor if he will, in his reply, kindly explain what he means by the statement that the treatment of one of his cases was changed to the bromids and then bromidism followed, resulting in death. Then, I would like him to explain what he means by the term alcoholic epilepsy being a new one to the literature. I have in mind the fact that Esquirol, before I was born, claimed that many of the cases of epileptic insanity are due to alcoholism, and in discussing the subject of epilepsy he speaks of the excessive use of alcohol as being one of the causes of the development of a form of epilepsy associated with insanity. Then, the conditions of double consciousness mentioned and the automatic states are also referred to this same cause. In dementia, what we call "alcoholism" now, but which was called "inebriety" then, was commonly known as the cause of this condition. I would like to know the number of cases in which the epilepsy developed where there was reason to suppose that there was epilepsy in the family and the manifestations were brought out by the alcoholism, and the other cases where it was produced solely by the alcohol. In the case that I mentioned there was no history, and when the drinking subsided the epilepsy did not recur. I think that Dr. Crothers has had a peculiar kind of experience; he has had an experience with alcoholic epilepsy without the insanity and this is especially valuable from the standpoint of insane asylum physicians.

DR. T. D. CROTHERS, Hartford, Conn.—In my regard, alcoholic epilepsy is simply a name and not a distinct disease. We do not know anything of the pathology of epilepsy and can only speak of it as a form of degeneration possessing symptoms more or less uniform. There is no true division of

these symptoms in the alcoholic from other cases, because there is such a multiple of causes. We can only take the excessive use of alcohol as one of them. It is not a distinctly new term, but it has many symptoms which seem to be peculiar and common to it. Most of these symptoms indicate a toxic condition. Epilepsy is often a toxic and convulsive state. Alcoholic toxins and other causes are likely to produce this state. We know that epilepsy is one of the active causes of insanity. The term alcoholic epilepsy is practically new. Ten years ago the term was seldom used, while to-day it is frequently mentioned. Many of the toxins may produce symptoms which resemble alcoholism. Epilepsy, alcoholism, morphinism, dementia, consumption, sudden collapse and hemorrhage of the brain may all follow from the presence of toxins. The symptoms will change widely. There are some cases which could be attributed solely to the use of alcohol, but even here some long predisposing causes are at work, usually some diseased state of the neurons, some former degeneration existing before the attack. Such persons nearly all die from acute nephritis or cerebral hemorrhage. Then, it is another point of clinical interest, that is that the use of the more toxic alcohols produce symptoms which resemble epilepsy. These are active causes which in modern times are very prominent. Concerning convulsive alcoholism, convulsive epilepsy and convulsive disease of the brain, it is a striking fact that these symptoms are becoming more common, and I think that a great many of them can be directly attributed to the use of the mixed drinks to which I have referred. If the police court records of drunkenness with convulsive symptoms were examined, many of them would be explained by the term alcoholic epilepsy.

THE PATHOLOGY OF CHROMIDROSIS.*

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The name chromidrosis implies an anomalous secretion from the sudoriferous or sweat glands characterized by colored perspiration. Its occurrence is exceedingly infrequent; Foot,[1] in a careful review of the literature dating from 1709 to 1868, has been able to enumerate but 38 cases, to many of which a doubtful character must necessarily be attributed. Fowie's[2] careful historical review, 1709-1891, does not add many well-defined cases, and surprisingly few have been reported in the literature of recent years. Its marked infrequency can be best appreciated by referring to the Van Harlingen's[3] statement, that "it is so rare as to be a curiosity rather than a disease."

Those who have written on the subject, almost without exception, are of one accord as to nature, and attribute to the condition a disorder, functional or otherwise, of the sweat glands. This is especially evident in all the text-books of skin diseases, where the subjects are not alphabetically arranged and follow some system of classification (Hyde,[4] Hardaway,[5] Morrow,[6] Kaposi,[7] Duhring,[8] Joseph,[9] Stelwagon,[10] Shoemaker,[11] Schamberg,[12] Fox,[13] Gottheil,[14] etc.); in these the affection is invariably classed with the anomalies of glandular secretion, namely, the sudoriferous glands, and is grouped with hyperidrosis, anidrosis, bromidrosis, uridrosis, hematidrosis, etc. In those which follow an alphabetic arrangement an anomaly of secretion is, as a rule, directly attributed, or indirectly implied (Jackson,[15] Van Harlingen,[16] etc.), apparently a few (Lesser,[17] Mracek,[18] Bulkely,[19] Neumann,[20] etc.), studiously refrain from committing themselves. It is surprising that some of the earliest observers (Nelligän, Wilson and Gintrac) have attributed the condition to a stearrhea, and Turenne to a metastasis of the eye pigment, facts which seem not so remarkable when we consider that the early investigators were very keen observers and relied almost exclusively on their powers of personal observation.

The color of the secretion varies with different cases, green, blue, purple, black, brown, yellow, red and intermediate shades. Black is the most common occurring in one-half the cases reported by Foot. Cases characterized by red pigmentation are generally associated with a reddish incrustation of the adjacent (usually axillary) hairs, the bacteriologic examination of which reveals the condition to be due to a *Zooglea* (*Bacillus prodigiosus*), which grows in rose-red colonies and often gives a history of direct contagion. These cases can not be properly classed with the so-called chromidrosis, but belong, by nature, with greater propriety to the class of so-called vegetable parasitic affections of the skin.

In my own clinical and private practice I have noted eight cases of this so-called red chromidrosis during the

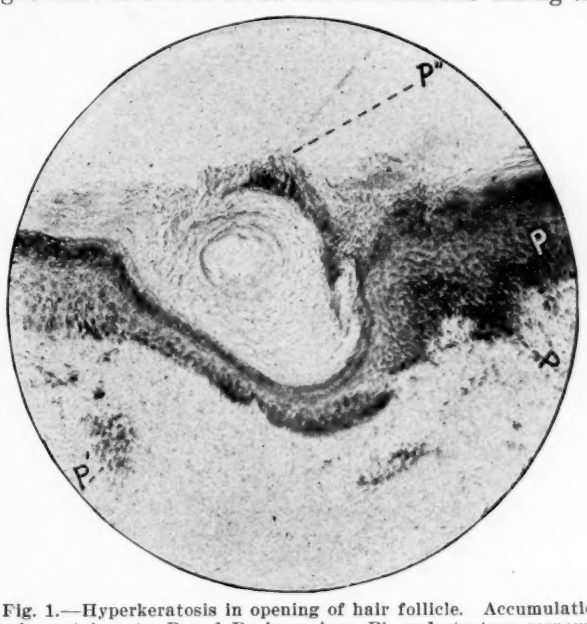

Fig. 1.—Hyperkeratosis in opening of hair follicle. Accumulation of pigment in rete, P and P; in corium, P', and stratum corneum, P", of immediate neighborhood. (Winckel, oc. 2, obj. 5.)

past two years, in most of which there was not only a reddish discoloration of the incrusted hairs, but also distinct reddish discoloration of the superimposed garments. If this class of cases is included, chromidrosis is by no means a rare affection, and it probably falls to the lot of nearly every close observer to note these cases from time to time. At present I have, among others, two patients under observation with this form of affection, an uncle and nephew, the latter of whom is a practicing physician, who has taken up his residence with his uncle during the past four years. The physician states that his infection is of five years' duration, and that his mother, with whom he then resided, is similarly affected, and has had her affection for almost the same length of time. His uncle acquired the affection almost four years ago, and more recently his daughter has also been infected. The axillæ in all the cases have been involved, and all the cases show the red discoloration to a marked extent. From these and other cases in the literature it is clearly evident that these forms of reddish discoloration are readily contagious, and owe their cause to a local infection, entering from without. Their para-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

sitic nature is further evidenced by the fact that some of my cases of so-called red chromidrosis have readily yielded to a few applications of Wilkinson ointment.

Though nearly all who have reported cases of red chromidrosis have attributed the cause to a parasite, different authorities vary as to its true nature. A few (Labrares et Cabannes[21]) strongly deny its bacteriologic nature; Temple[22] attributes it to the ingestion of potassium iodid; Stott,[23] to torulæ, which grow in rose-red colonies on potato culture at 38 C, and deep red at O C; Fowie[24] ascribes the cause to the *Bacillus prodigiosus;* Babesiu[25] to a form of *Zooglea,* and Hartzell[26] to a fungus bearing a resemblance to the *Micrococcus tetragenus.* This marked diversity of opinion induced me to make culture experiments on potato, gelatin, agar, etc. Potato cultures served the best, and though contaminations were very common, involving different forms of sarcina, staphylococci and bacilli, deep brick-red colonies could be isolated in most instances, whose microscopic appearance was a *Micrococcus tetragenus.* Inoculation experiments were not attempted.

Let us now digress from the so-called cases of red chromidrosis and resume with the more well-defined

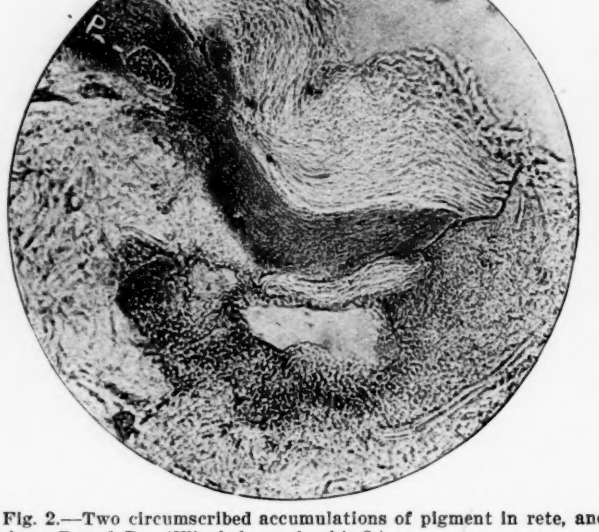

Fig. 2.—Two circumscribed accumulations of pigment in rete, and corium, P and P. (Winckel, oc. 1, obj. 3.)

cases, in which, according to Foot,[27] 34 out of 38 were women, 19 out of 29 were unmarried, age varied from 5 to 57 years, average being 22 years; the face, particularly the eyelids, is most commonly involved and uterine disturbance and hysteria are frequently associated. In nearly all the cases the attack comes on suddenly without apparent cause, and persists usually for a few years in intermittent form.

The case which I wish to report occurred in H. O., a brunette, a native of Germany, aged 53, a merchant of intelligence, good social standing, who has been married for 15 years and is the father of one child. His general health has been excellent; in 1898 he suffered with an attack of hepatic colic, which was followed by jaundice, and the following year, under severe medication, involving salivation, he passed a large number of gallstones. In a short time he regained his customary good health, which has been uniformly good since 1900. In 1901, he noted for the first time that the linen of his right forearm became discolored. The discoloration was a yellowish-brown and permanent in character, so that it could not be removed in the process of laundering. The discoloration was rapid and extensive, so that in two days' time a new cuff or a new shirt sleeve was very perceptibly and indelibly discolored. The coat sleeve lining shared in the discoloration to such an extent that its renewal, for cosmetic reasons, every two months, became a necessity. The patient was able to take note of no other subjective or objective symptoms of any character whatever. The condition has persisted continuously for the past two years. Perspiration has not been excessive and to the patient's knowledge but slight.

When patient presented himself for examination, for the first time on March 5, 1902, the skin over the affected wrist was apparently normal; there was no evidence of any inflammation, and no disturbance of innervation. Compared with the skin elsewhere on the body and with the opposite wrist, there was a very slight, evenly-diffused pigmentation, as if the affected area had been lightly bathed with tincture of opium. It remained unchanged when scrubbed with pledgets of cotton dipped in water, soap, alcohol and ether and the pledgets themselves took on no discoloration. Pledgets dipped in chloroform removed the discoloration rapidly and left the areas thus treated much whiter by contrast than the surrounding area.

Examination of urine showed reaction faintly acid, no albumin, no sugar, no formed elements, specific gravity 1020 and no indican. Blood examination by Dr. Alfred Friedlander showed no variation from the normal.

An examination of the secretion, which was collected on pure white linen, revealed it to be insoluble in the ordinary solvents,

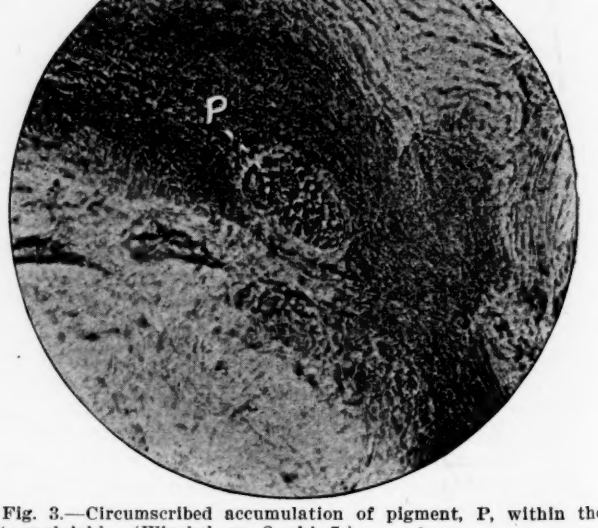

Fig. 3.—Circumscribed accumulation of pigment, P, within the rete malpighi. (Winckel, oc. 2, obj. 5.)

ether, alcohol, water, glycerin, zylol, etc., and readily soluble in chloroform, imparting to the latter a yellowish-brown color. Hydrogen dioxid exerts no bleaching action on the yellow color. When evaporated on glass slides it formed a smooth yellowish substance, which under the microscope revealed a semi-crystalline appearance, due no doubt to the admixture of old, dried-up epithelial cells and other detritus (Fig. 5); when previously filtered, the microscopic appearance is amorphous and structureless; when the chloroform is completely evaporated, the deposit retains a resinous character, readily taking the impression of the finger and showing with minuteness the folds and furrows of the skin, or can readily be etched by means of a needle.

The eliminated substance is unaffected by acids (nitric, hydrochloric, sulphuric, carbolic), and fails to give the characteristic reactions for indol, indican and bile pigments. The negative character of these reactions and the absence of indican in the urine is sufficient evidence, I believe, to dissociate this affection from renal and hepatic predisposing influences, notwithstanding strong opinions to the contrary (Labrares,[28] Hofmann[29]) and the preëxisting liver disorder in this particular case.

On March 8, a small piece of skin was removed from the anterior surface of the wrist, near the ulnar border, central

to the area of greatest discoloration, for the purpose of microscopic examination. It was thoroughly washed for one-half hour in running water and hardened in successive alcohol; the use of formalin, Müller's fluid, etc., was purposely avoided, in order not to induce discoloration, or to conserve the blood, and thereby mask pigmentary changes. The preparation was imbedded in celloidin and sectioned in successive serials, and examined partially unstained and bleached, partially stained with polychrome-methylene-blue, eosin, hematoxylin-eosin, hematoxylin-picric acid, Van Giessen, thionin, orcein, etc. The unstained specimens and those faintly stained with polychrome-methylene-blue (Unna), decolorized with glycerin ether, showed the most interesting changes.

My interest was first centered in the microscopic appearance of the sweat glands; they are found to be normal, showing no cystic dilatation, no pigmentary infiltration, no discoloration and no inflammatory changes In other words, no pathologic alterations, no structural variation from the normal can be detected in these elements, which, in any manner or form can induce, or result from, a so-called chromidrosis or colored sweating. (Fig. 5.) This finding accords with what would be naturally inferred from the nature of the pigmented elimination, the latter being thoroughly insoluble in water, could scarcely be eliminated by a secretion essentially watery in character.

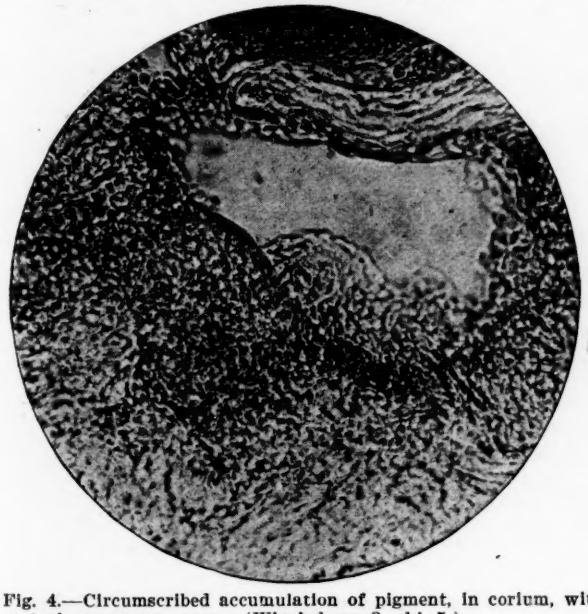

Fig. 4.—Circumscribed accumulation of pigment, in corium, with a central cavernous space. (Winckel, oc. 2, obj. 5.)

The general appearance and structure of the skin is almost normal. The epidermis, corium and subcutaneous connective tissue are normal in their general structure and contour. The stratum corneum, rete mucosum, papillæ, capillaries, ducts of the sudoriferous glands, show no marked variations from the normal. A marked hyperkeratosis is present around the opening of the hair follicles, and the adjacent stratum corneum is thickened to two or three times the natural size. (Fig. 1.) Associated is the entire absence of sebaceous glands. Although hair and their follicles were abundantly present, and innumerable specimens were carefully examined, not the vestige of a sebaceous gland was discovered in any of the specimens. Elastic fibers, though abundantly present, showed no marked variation from the normal.

Examination with the higher powers of the microscope readily show the presence of small, roundish yellowish particles, which for the most part are located in definite areas of the specimens. They can be most easily detected in unstained preparations, particularly those which have been previously bleached with hydrogen dioxid, or specimens which have been very faintly stained with polychrome methylene blue, and decolorized with glycerin ether. Many are located in external layers of the stratum corneum, exclusively in and around the hair follicles, and particularly those areas which show the above-mentioned hyperkeratosis. The greater quantity is distributed to the lower layers of the epidermis of those areas, where the pigmented bodies are accumulated to form compact masses, occasionally showing a central cavity and often distinctly walled off from the surrounding tissues. (Figs. 2, 3 and 4.) The lower layer of columnar or germinal cells of the epidermis of this region show marked pigmentation, pigment of the same form and color, as described above, and contrasting strongly with the pale germinal cells situated elsewhere along the epidermis.

In and around the papillæ, extending for some distance into the corium, and in close proximity to the hair follicles, adjacent to the pigmented germinal cells of the epidermis, are numerous small pigmented bodies, for the most part roundish, but often irregular in outline and retaining the same general analogy to the above-mentioned pigmented bodies. The latter cells have an analogy to the so-called chromophore cells, which are believed to bear the pigment of normal cells from its origin in the cutis to the epidermal cells. They retain the same localization, and apparently perform the same function, the distribution of pigment from the cutis to the epidermis. They differ, however, materially in certain characteristics. They are smaller and more roundish in outline, and show no long proto-plasmic processes, so-called pseudopodia, by reason of which these cells were for a time supposed to possess ameboid movements and carry the pigment from its point of emanation to the epidermis. Ballowitz[30] has been able to demonstrate that the nerve endings penetrate these cells and envelope them thickly with dichotomous branches, thereby precluding their movement. He has also been able to demonstrate in the scales of fresh herring that the apparent change of form is due to the transposition of the pigment (which in the chromophores is finely granular) within the cells. The chromophores therefore probably serve as mere "stepping stones" or fixed carriers for the pigment in its course from the deeper structures to the sur-

Fig. 5.—Showing normal condition of the sudoriferous glands. (Winckel, oc. 2, obj. 5.)

face. The pigmented bodies in chromidrosis differ from the chromophores of ordinary pigmentation, in that their contents are not finely granular, but homogeneous and amorphous, and that they do not decolorize with hydrogen dioxid.

I was unable to determine to my personal satisfaction the ultimate source of the pigment in chromidrosis. That its source is from some point in the cutis is readily apparent from the examination of the specimens, but whether it springs from lymph or blood vessel, from pre-existing cell tissue, or what not, will be equally if not more difficult to determine, I believe, than the present unknown source of the pigment of the cutis. Its apparently free dissemination in the epidermis, tissue pre-eminently vascularized by lymph, leads me to concur with Moritz Cohn,[31] that the pigment is derived from the lymph spaces of the cutis.

I regret that I have been unable to discover in my investigations into the literature any report on the histologic changes in any of the cases thus far recorded, inasmuch as a comparison would have been of great interest and confirmation of great value. No mention of chromidrosis is made in Unna's[32] "Histopathologie der Haut," a work that is very comprehensive as regards the pathology of the skin and replete in all its detail. One case is hardly sufficient, especially in a disease which shows so many variations, to serve as a standard for all, but its marked infrequency precludes the reports of accumulated cases.

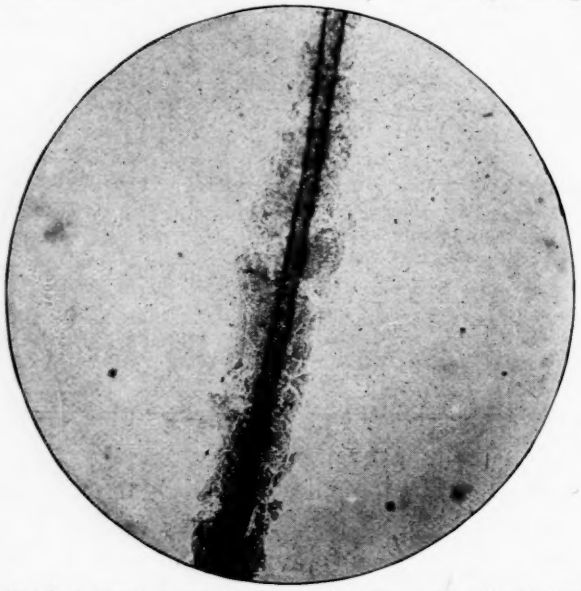

Fig. 6.—Concretion attached to a hair, from a case of red chromidrosis. (Oc. 1, obj. 3, Winckel.)

With the hope that a spectroscopic examination may have been able to shed more light on the nature of the eliminated pigment, a chloroform solution was sent to Mr. C. P. Fennel, who has kindly reported that absorption bands were not present, and hence it was not a product of hemoglobin or oxyhemoglobin. Sodium bands, somewhat expanded, were present, together with two faint, narrow interposed lines, which could not be read with any degree of satisfaction. A careful chemical analysis has not been attempted, but for reasons above stated I do not concur that it is derived from indigo or indican, bile or hemoglobin. I believe, for the present, it can be classed with due propriety with the large class of pigments of the body, the nature of a large number of which is, as yet, so little known and imperfectly understood. I am unable to attribute to my case any direct or predisposing cause. He is of a temperate, phlegmatic disposition, quiet, unobstrusive in nature and had noted the affection over a year before he became sufficiently interested to bring it to the attention of a physician. Similation has been carefully ruled out by applying a coating of zinc gelatin to the affected area, after a previous application of chloroform, although there were little grounds for entertaining any suspicions. He is not addicted to drugs (Temple[33]), vocation (Dyer[34]) and trauma (Geschelin[35]) exerted no predisposing influence, and he is not neurotic (Fowie,[36] Foot[37]), paretic or epileptic (Delthil[38]).

A case of simulation came to my notice in June, 1900. Miss R. F., aged 22, from Van Wert, Ohio. Consulted in regard to a reddish discoloration of the left palm and forearm, associated with shred-like desquamation of two years' duration. The case elicited much local attention and the diagnosis of erysipelas and a suggestion of amputation induced the parents to seek special advice. Red chromidrosis or simulation promptly suggested itself, and a two weeks' stay in the hospital with a plaster-of-paris bandage cleared up the condition and confirmed the latter diagnosis. A confession from the hysterical young woman then revealed that she had been in the habit of applying crude carbolic acid locally and tinting the member with artificial rose petals dipped in water.

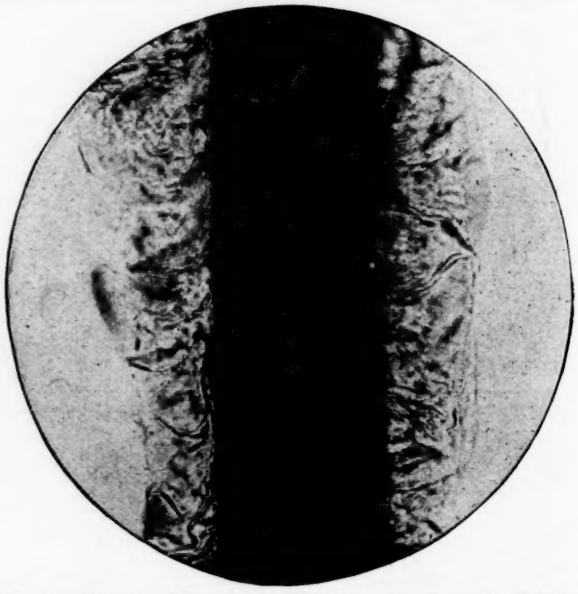

Fig. 7.—Structural appearance of the concretion attached to a hair, taken from a case of red chromidrosis. (Oil immersion 1/12, oc. 4, Winckel.)

I have been unable to carry out any prolonged line of investigation in regard to treatment. It is somewhat difficult to suggest proper curative agents, and the same futility as regards treatment no doubt presents itself in this disease as in chloasma, vitiligo and other pigmentary disturbances. I have found that sponging the affected surface locally with chloroform is an excellent palliative measure and prevents the excessive staining so disagreeable and annoying to the patient.

To recapitulate, chromidrosis is not, as its name implies, an anomaly of sudoriferous secretion. Judging from the limited number of cases in the literature, and as a matter of common observation, it is an exceedingly rare affection as regards forms characterized by yellow and brown, and probably black, blue, green and intermediate shades of discoloration. Red chromidrosis is an entirely different and by no means an infrequent type

of affection, with an extraneous cause, probably some form of erythro-micrococcus-tetragenus infection from individual to individual, and yielding to antiparasitic remedies. In the light of this investigation the pigmented elimination, in the yellowish-brown forms at least, is insoluble in water, alcohol, ether, etc., is readily soluble in chloroform, stains linen indelibly, shows no reaction when treated with ordinary reagents, and is amorphous, homogeneous and resinous in character. Pathologic examination reveals the sudoriferous glands of the affected area to be normal, sebaceous glands absent, a hyperkeratosis around the openings of hair follicles and pigment accumulations near the hair follicles, in the stratum corneum, lower layers of the rete, and the adjacent cutis. The pigment is grouped in cell-like masses, is not finely granular and does not bleach with hydrogen dioxid like chromophores. Spectroscopic examination of the eliminated pigment reveals no absorption bands and hence it is not a derivative of oxyhemoglobin. In view of the pathologic findings, the absence of sebaceous glands, the normal condition of the sudoriferous glands, cases of so-called chromidrosis (excluding red forms) are anomalies of pigmentation and not glandular secretion.

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DISCUSSION.

DR. M. B. HARTZELL, Philadelphia—The so-called red chromidrosis of the axilla has nothing at all to do with the sweat glands, the sweat only dissolving the coloring matter of the masses on the hairs. While this affection is most frequent in the axillary region I have seen it on the hairs of the perineum. I recall a case in which I was not as successful as Dr. Heidingsfeld, although I saw the case at intervals for eight or ten years and tried everything to effect a cure. The woman's underclothing was stained a deep orange so that she was compelled to constantly change it.

DR. H. G. ANTHONY, Chicago—I hesitate to accept the pathology which finds the pigment a fixed tissue as well as being carried out through the sweat glands. The Doctor has said the sweat has not been subjected to a further chemical analysis. In the case which was subjected to chemical analysis the chemists and dermatologists found indican. Until such an analysis has been made I do not think he has a right to say that this cause is not due to the secretion of indican.

DR. W. S. GOTTHEIL, New York—I confess it was not made clear to me how this pigment got to the surface. I would like to have some explanation.

DR. HEIDINGSFELD—I must confess my inability to satisfactorily explain the rôle which the pigment plays in the process of elimination. The source of the pigment and its conservation and distribution is an exceedingly obscure subject in not only normal conditions, but in the pigmentary changes more commonly encountered in vitiligo, chloasma, canities, pigmented nevus, sarcoma, etc., and it seems to me that some of my fellow members are requiring much from a condition which, at best, can offer relatively little. I dwelt on the point of pigment elimination and pigment distribution as fully and clearly in the paper as circumstances would permit. I believe that the process, to all appearances, is similar to the changes which accompany normal pigmentation, the pigment reaching the surface, from cell to cell through some form of stepping stone or carrier, from its source in the cutis. It can be traced directly by its presence, through the different areas mentioned, to its ultimate distribution in accumulated masses on the surface in the uppermost layers of the epidermis. I am firmly convinced that the sweat glands play no important rôle in this affection, as evidenced not only by their normal appearance and the pathologic changes in the other tissues, but also by the physiologic evidence of the insolubility of the eliminated pigment in aqueous solutions, which precludes its elimination from the sweat glands. Its insolubility in ether, alcohol, oil, etc., renders its elimination from the sebaceous glands also highly improbable.

THE BLOOD IN FILARIASIS.

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ST. LOUIS.

Since the discovery of the embryos of *Filaria nocturna* in the peripheral circulation by Lewis, in 1872, very few observers have devoted their attention to the changes in the blood associated with this disease.

In 1894 Bancroft and Bancroft[1] noted a leucocytosis in filariasis and published the following blood counts, no differential blood counts being made:

	Whites.	Reds.
Case 1	23,750	5,360,000
Case 2	12,000	6,000,000
Case 3	27,300	6,000,000
Case 4	21,500	6,000,000
Case 5	14,500	4,600,000
Case 6	5,500	3,620,000

Lothrop and Pratt,[2] in 1900, found the whites in two cases to be about normal; their highest count was 8,000, lowest 3,500. Differential counts showed 4.6 and 3.5 per cent. of eosinophiles.

G. L. Gullard[3] found a leucocytosis varying from 4,600 to 13,500, and an eosinophilia varying from 3 to 12 per cent. He observed the highest leucocytosis and eosinophilia when the number of embryos in the peripheral circulation was greatest; and a decrease in the leucocytes and eosinophilia accompanying the decrease of the embryos in the peripheral circulation.

A few months later Coles[4] noted an increase of eosinophiles of 15 and 17 per cent. in smears made from cases of filariasis and bilharzia hematobia.

My attention was directed to this subject in the summer of 1900, while examining tissues removed at autopsy from a pest cadaver. A parent worm was found in one of the iliac lymphatic glands and numerous eosinophiles were noted in the capillaries of the several organs. (Case 1.) During the winter and spring of 1901, 426 specimens of blood taken from Filipino prisoners of war were examined. Two cases of filariasis were found.

CASE 2.—A. P.; male Filipino; native of Albay; has been in Manila about one month. No history of previous illness could be obtained. During past three months patient has had occasional chills and fever. Left iliac glands have been painful

two months, and the inguinal one month. Patient is a healthy-looking, well-built man.

Examination—Left conjunctivitis; pulsating veins in the neck; old variolar scars on arms; few râles and roughened breathing in right lung; heart dulness extended from 2 cm. to right of sternum to 2 cm. left of nipple line; area of pulsation from third to fifth interspace; sounds booming; liver and spleen normal in size. On the left side, immediately above Poupart's ligament, a painful tumor could be palpated. This tumor was, most probably, enlarged iliac glands. One inguinal gland was about three-quarters of an inch by one inch in size and painful. Both spermatic cords and testicles were normal.

Eight embryos were found in specimen of blood taken on April 4, 1901, at 11 p. m.; on April 6, at 9 a. m., one embryo was found.

Blood counts, on April 6, 9 a. m., were as follows:

Reds, 3,866,666; whites, 18,760. L., 10.66 per cent.; L. M., 5.66 per cent.; E., 12.33 per cent.; P. N., 69 per cent.; T., 3 per cent.; 200 counted.

April 17, noon. Reds, 4,700,000; whites, 22,000. L., 9.6 per cent.; L. M., 4 per cent.; E., 22.4 per cent.; P. N., 61.6 per cent.; T., 2.4 per cent.; 200 counted.

On April 18, beginning at 9 a. m., hourly counts of the number of embryos per c.c. and leucocytes per cm. (during day time) and differential white blood counts were made during the following twenty-four hours.[1]

NUMBER OF EMBRYOS PER CC. OF BLOOD.

April 18, 9 a. m.	0	April 19, 1 a. m.	672
April 18, 10 a. m.	0	April 19, 2 a. m.	840
April 18, 11 a. m.	0	April 19, 3 a. m.	672
April 18, 12 Noon	0	April 19, 4 a. m.	672
April 18, 1 p. m.	0	April 19, 5 a. m.	504
April 18, 2 p. m.	0	April 19, 6 a. m.	504
April 18, 3 p. m.	0	April 19, 7 a. m.	84
April 18, 4 p. m.	0	April 19, 8 a. m.	0
April 18, 3 p. m.	0	April 19, 7 p. m.	84
April 18, 4 p. m.	0	April 19, 8 p. m.	0
April 18, 5 p. m.	0	April 19, 9 a. m.	84
April 18, 6 p. m.	84	April 27, 9 a. m.	84
April 18, 7 p. m.	252	May 1, 10 a. m.	252
April 18, 8 p. m.	504	May 6, 2 p. m.	0
April 18, 9 p. m.	672	May 8, 8 a. m.	0
April 18, 10 p. m.	840		
April 18, 11 p. m.	1176		
April 18, 12 Midnight.	840		

April 18, 9 a. m. Reds, 4,720,000; whites, 23,000. L., 12 per cent.; L. M., 4 per cent.; E., 20 per cent.; P. N., 60 per cent.; T., 4 per cent.; 200 counted.

April 18, 10 a. m. Whites, 18,000. L., 12 per cent.; L. M., 4 per cent.; E., 17 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 18, 11 a. m. Whites, 18,666. L., 9 per cent.; L. M., 3 per cent.; E., 20 per cent.; P. N., 65 per cent.; T., 3 per cent.

April 18, 12 noon. Whites, 18,500. L., 11 per cent.; L. M., 6 per cent.; E., 21 per cent.; P. N., 59 per cent.; T., 3 per cent.; 200 counted.

April 18, 1 p. m. Whites, 26,666. L., 10 per cent.; L. M., 4.5 per cent.; E., 20 per cent.; P. N., 60 per cent.; T., 2.5 per cent.; 200 counted.

April 18, 2 p. m. Whites, 24,444. L., 10 per cent.; L. M., 5 per cent.; E., 22 per cent.; P. N., 58 per cent.; T., 5 per cent.; 200 counted.

April 18, 3 p. m. Whites, 20,000. L., 11 per cent.; L. M., 4 per cent.; E., 21 per cent.; P. N., 60 per cent.; T., 4 per cent.; 200 counted.

April 18, 4 p. m. Whites, 18,666. L., 12 per cent.; L. M., 3 per cent.; E., 15 per cent.; P. N., 67 per cent.; T., 3 per cent.; 200 counted.

April 18, 5 p. m. Whites, 18,000. L., 11 per cent.; L. M., 5 per cent.; E., 16 per cent.; P. N., 65 per cent.; T., 3 per cent.; 150 counted.

April 18, 6 p. m. Whites, 20,000. L., 14 per cent.; L. M., 5 per cent.; E., 13 per cent.; P. N., 63 per cent.; T., 5 per cent.; 150 counted.

April 18, 7 p. m. L., 16 per cent.; L. M., 5 per cent.; E., 12.5 per cent.; P. N., 61.5 per cent.; T., 5 per cent.; 150 counted.

April 18, 8 p. m. L., 14 per cent.; L. M., 4 per cent.; E., 19 per cent.; P. N., 60 per cent.; T., 3 per cent.; 200 counted.

April 18, 9 p. m. L., 13 per cent.; L. M., 5 per cent.; E., 11 per cent.; P. N., 68 per cent.; T., 3 per cent.; 150 counted.

April 18, 10 p. m. L., 13 per cent.; L. M., 5 per cent.; E., 15 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 18, 11 p. m. L., 15 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 65 per cent.; T., 3 per cent.; 200 counted.

April 18, 12 (midnight). L., 17 per cent.; L. M., 5 per cent.; E., 8 per cent.; P. N., 67 per cent.; T., 3 per cent.; 200 counted.

April 19, 1 a. m. L., 12 per cent.; L. M., 4 per cent.; E., 17 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 19, 2 a. m. L., 10 per cent.; L. M., 3 per cent.; E., 21 per cent.; P. N., 64 per cent.; T., 2 per cent.; 200 counted.

April 19, 3 a. m. L., 10 per cent.; L. M., 3 per cent.; E., 15 per cent.; P. N., 69 per cent.; T., 3 per cent.; 200 counted.

April 19, 4 a. m. L., 11.5 per cent.; L. M., 3 per cent.; E., 11.5 per cent.; P. N., 71 per cent.; T., 3 per cent.; 200 counted.

April 19, 5 a. m. L., 11 per cent.; L. M., 4 per cent.; E., 18 per cent.; P. N., 64 per cent.; T., 3 per cent.; 200 counted.

April 19, 6 a. m. L., 12.5 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 65.5 per cent.; T., 3 per cent.; 200 counted.

April 19, 7 a. m. Whites, 18,600. L., 13.5 per cent.; L. M., 3 per cent.; E., 17.5 per cent.; P. N., 63 per cent.; T., 3 per cent.; 200 counted.

April 19, 8 a. m. Whites, 22,000. L., 13 per cent.; L. M., 4 per cent.; E., 14 per cent.; P. N., 65 per cent.; T., 4 per cent.; 200 counted.

April 19, 9 a. m. Whites, 18,666. L., 12 per cent.; L. M., 4 per cent.; E., 16 per cent.; P. N., 64 per cent.; T., 3 per cent.; 200 counted.

April 27, 9 a. m. Reds, 5,200,000; whites, 23,000. L., 13 per cent.; L. M., 3 per cent.; E., D 14 A; P. N., 68 per cent.; T., 2 per cent.; 200 counted.

May 1, 10 a. m. Reds, 5,200,000; whites, 18,000. L., 16 per cent.; L. M., 4 per cent.; E., 18 per cent.; P. N., 60 per cent.; T., 2 per cent.; 200 counted.

May 6, 2 p. m. Reds, 5,160,000; whites, 20,000. L., 12 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 66 per cent.; T., 3 per cent.; 200 counted.

May 8, 8 a. m. Reds, 5,200,000; whites, 17,000. L., 13 per cent.; L. M., 4 per cent.; E., 14 per cent.; P. N., 66 per cent.; T., 3 per cent.; 200 counted.

CASE 3.—M. R.; male Filipino; age 56; native of Albay; well built. Physical examination negative excepting slight enlargement of the right spermatic cord, and small right hydrocele. Right testicle was normal in size and hard. Chills, fever and some headache had occurred at irregular intervals during the past year. Two embryos were found in specimens of blood taken on April 4, 1901, at 11 p. m.; in that on April 6, 9 a. m., two.

On April 18, reds numbered 3,620,000; whites, 8,000 per cm. Differential count: L., 14 per cent.; L. M., 4.5 per cent.; E., 15 per cent.; P. N., 64 per cent.; T., 2.5 per cent.

On April 23, beginning at 2 p. m., hourly counts of the embryos per c.c. and leucocytes per cm. (during day time) and differential counts of the leucocytes were made.

Number of embryos per c.c.:

April 23, 2 p. m., 84; 3 p. m., 0; 4 p. m., 0; 5 p. m., 84; 6 p. m., 84; 7 p. m., 504; 8 p. m., 588; 9 p. m., 1680; 10 p. m., 1596; 11 p. m., 1512; 12 p. m., 1428.

April 24, 1 a. m., 1008; 2 a. m., 1008; 3 a. m., 840; 4 a. m., 672; 5 a. m., 504; 6 a. m., 168; 7 a. m., 756; 8 a. m., 1092; 9 a. m., 336; 10 a. m., 588; 11 a. m., 336; 12 noon, 84; 1 p. m., 0; 2 p. m., 84.

May 6, 336.

May 8, 2 p. m., 0.

On April 23, 2 p. m. Red blood count, 3,552,000. Whites, 7600. L., 19 per cent.; L. M., 3.5 per cent.; E., 6.5 per cent.; P. N., 68 per cent.; T., 3 per cent.; 200 counted.

April 23, 3 p. m. Whites, 8000. L., 15 per cent.; L. M., 3.5 per cent.; E., 8 per cent.; P. N., 70.5 per cent.; T., 3 per cent.; 200 counted.

April 23, 4 p. m. Whites, 8000. L., 19.5 per cent.; L. M., 4.5 per cent.; E., 8 per cent.; P. N., 66 per cent.; T., 2 per cent.; 200 counted.

April 23, 5 p. m. Whites, 6666. L., 20 per cent.; L. M., 3 per cent.; E., 7.5 per cent.; P. N., 67 per cent.; T., 2.5 per cent.; 200 counted.

April 23, 6 p. m. Whites, 13,333. L., 20 per cent.; L. M., 4 per cent.; E., 7 per cent.; P. N., 66 per cent.; T., 3 per cent. 200 counted.

April 23, 7 p. m. L., 20 per cent.; L. M., 3 per cent.; E., 7 per cent.; P. N., 68 per cent.; T., 2 per cent.; 200 counted.

April 23, 8 p. m. L., 16 per cent.; L. M., 4 per cent.; E., 6.5 per cent.; P. N., 70 per cent.; T., 3 per cent.; 200 counted.

April 23, 9 p. m. L., 23 per cent.; L. M., 3 per cent.; E., 6.5 per cent.; P. N., 64.5 per cent.; T., 3 per cent.; 200 counted.

April 23, 10 p. m. L., 18 per cent.; L. M., 4 per cent.; E., 7 per cent.; P. N., 67 per cent.; T., 4 per cent.; 150 counted.

April 23, 11 p. m. L., 22 per cent.; L. M., 4 per cent.; E., 7 per cent.; P. N., 64.5 per cent.; T., 2.5 per cent.; 300 counted.

April 23, 12 p. m. L., 21 per cent.; L. M., 3 per cent.; E., 6 per cent.; P. N., 65 per cent.; T., 2 per cent.; 150 counted.

April 24, 1 a. m. L., 22 per cent.; L. M., 3 per cent.; E., 8 per cent.; P. N., 65 per cent.; T., 2 per cent.; 150 counted.

April 24, 2 a. m. L., 22 per cent.; L. M., 3 per cent.; E., 3 per cent.; P. N., 65 per cent.; T., 3 per cent.; 200 counted.

April 24, 3 a. m. L., 22 per cent.; L. M., 3 per cent.; E., 6 per cent.; P. N., 67.5 per cent.; T., 1.5 per cent.; 200 counted.

April 24, 4 a. m. L., 19 per cent.; L. M., 3.5 per cent.; E., 8 per cent.; P. N., 67.5 per cent.; T., 2 per cent.; 200 counted.

April 24, 5 a. m. L., 18.5 per cent.; L. M., 4 per cent.; E., 14.5 per cent.; P. N., 61 per cent.; T., 2 per cent.; 200 counted.

April 24, 6 a. m. Whites, 8600. L., 19 per cent.; L. M., 3 per cent.; E., 10.5 per cent.; P. N., 64.5 per cent.; T., 3 per cent.; 200 counted.

April 24, 7 a. m. Whites, 12,000. L., 22 per cent.; L. M., 3 per cent.; E., 12.5 per cent.; P. N., 60.5 per cent.; T., 2 per cent.; 200 counted.

April 24, 8 a. m. Whites, 10,600. L., 25 per cent.; L. M., 4 per cent.; E., 8 per cent.; P. N., 60 per cent.; T., 3 per cent.; 200 counted.

April 24, 9 a. m. Whites, 8600, triple stain. L., 15 per cent.; L. M., 2.5 per cent.; E., 20.5 per cent.; P. N., 60.5 per cent.; T., 1.5 per cent.; 500 counted.

April 24, 9 a. m. Stained with hematoxylin and eosin. L., 11 per cent.; L. M., 3 per cent.; E., 19 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 24, 10 a. m. Whites, 7000. L., 16 per cent.; L. M., 4.5 per cent.; E., 12.5 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 24, 11 a. m. Whites, 7600. L., 15 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 64 per cent.; T., 2 per cent.; 200 counted.

April 24, 12 noon. Whites, 8000. L., 16 per cent.; L. M., 4 per cent.; E., 12 per cent.; P. N., 66 per cent.; T., 2 per cent.; 200 counted.

April 24, 1 p. m. Whites, 10,000. L., 14 per cent.; L. M., 4 per cent.; E., 12 per cent.; P. N., 68 per cent.; T., 2 per cent.; 150 counted.

April 24, 2 p. m. Whites, 8000. L., 20 per cent.; L. M., 4 per cent.; E., 11 per cent.; P. N., 64 per cent.; T., 2 per cent.; 200 counted.

May 1, 10 a. m. Reds, 3,289,000. Whites, 14,000. L., 16 per cent.; L. M., 5 per cent.; E., 15 per cent.; P. N., 62 per cent.; T., 2 per cent.; 200 counted.

May 6. Reds, 4,200,000. Whites, 9000. L., 26 per cent.; L. M., 6 per cent.; E., 13 per cent.; P. N., 52 per cent.; T., 3 per cent.; 200 counted.

May 8, 2 p. m. Reds, 3,500,000. Whites, 12,000. L., 20 per cent.; L. M., 6 per cent.; E., 12 per cent.; P. M., 60 per cent.; T., 2 per cent.; 200 counted.

CASE 4.—Blood examinations of Case 4 substantiate the findings of Cases 2 and 3, but add no new facts. No trichinæ could be found in a portion of the biceps muscle.

The accompanying chart shows the periodicity of the eosinophilia. This periodicity depends on the periodicity of the embryos in the peripheral circulation as shown by Manson.[5] He found the embryos clumped together in the large arteries and irregularly scattered through the capillaries during the daytime and in the peripheral circulation during the night. The blood vessels of the lungs seemed to be the favored hiding places during the daytime.

Recent work on trichinosis, ankylostomiasis and the present work[6] on filariasis show that these parasites have a positive chemotaxis for eosinophiles and that wherever in the body the parasite may be located there eosinophiles will be found.

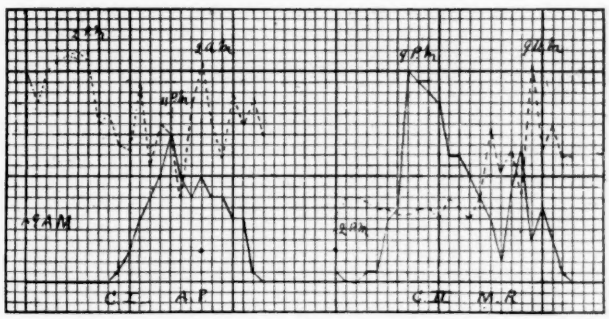
When the embryos are crowded into the capillaries a local positive chemotaxis for eosinophiles gradually attracts these cells from the general circulation. As the embryos reënter the peripheral circulation this local positive chemotaxis is removed, allowing the eosinophiles to reënter the general circulation. The movement of the eosinophiles must be some hours later than that of the embryos.

DESCRIPTION OF CHART.

Each horizontal line represents 84 embryos and 1 percentum of eosinophiles. Each perpendicular line represents one hour of time. In the time indicated by A. P.—from 9 a. m. to 5 p. m.—no embryos were found; during these hours the eosinophilia in the peripheral circulation was greatest; from 5 p. m. to 11 p. m. the number of embryos per c.cm. of blood was increasing, while the eosinophilia was decreasing; from 11 p. m. to 8 a. m. the number of embryos was decreasing and the eosinophilia increasing.

Cases 2 and 3 were recently infected, while in 1 and 4 the duration of the disease could not be ascertained. Cases 1 and 4 did not have trichinosis, while 2 and 3 were not examined. All of the cases show a decided eosinophilia associated with filariasis. In the most recent case, Case 2, the highest eosinophilia was found. In cases of long standing eosinophilia has not been observed.

In the light of the above works it may be stated that during the early stages of filariasis a leucocytosis and eosinophilia are present; that the leucocytosis and eosinophilia are cyclic, following by a few hours the



—— Embryos.
..... Eosinophiles.

periodicity of the embryos in the peripheral circulation, and that as the disease progresses the leucocytosis and eosinophilia gradually decrease to normal. As yet the duration of these phenomena have not been determined.

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Why the Yellow Newspaper is Against the Medical Profession.—In his excellent address (*Colorado Medical Journal*, July, 1902) Dr. S. D. Van Meter states that in 1901 the four leading newspapers of Denver received about $72,000 for advertisements from the illegal and advertising practitioners of the city. And yet Dr. Van Meter says that if any one of these papers would refuse such immoral and indecent advertisements, and would champion the cause of right and public welfare, there would be an instantaneous increase of circulation, as a result of professional influence, that would more than offset the loss of income from the criminal advertising. The problem, therefore, is for the profession and honorable-minded citizens, first, to unite their influence, and then to bring it to bear upon the conscienceless newspaper publisher. The condition of medical progress is thus demonstrated from another side to consist in organization. Let us organize!—*Amer. Med.*

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THE ROLE OF THE TOXINS IN INFLAMMATORY PROCESSES.

The time has probably arrived when the pathologist should insist that the professional gaze shall no longer be directed to pathogenic bacteria as the sole agent in the production of inflammation. For many years we have known that infective alterations in the tissues are not always to be explained by the presence of bacteria, although it is also well established that the initial disturbance is very frequently due to microbic invasion. One of these numerous instances is found in migratory ophthalmia. This example is chosen because it well exemplifies the progress made in very recent times in the domain of bacteriology. The experiments of Harold Gifford, Deutschmann and others have clearly shown that the path of infection in "sympathetic" ophthalmia is along the vaginal canals (and other lymph spaces) of the optic nerve, from the injured and infected eye to the chiasma, thence, by way of the opposite nerve, to the "sympathizing" eye—but, in the great majority of instances where an examination of the uninjured eye was made, no bacteria whatever were discovered. The sympathizing eye was generally found to be "sterile." This fact was variously interpreted by those whose faith in the germ theory of disease was still unshaken. The microbes were destroyed, they said, before the examinations had been made, but after they had reached the second eye and, in some mysterious way, had accomplished their purpose of setting up in it destructive changes closely resembling those seen in the primary lesion. Other observers, feeling this negative evidence insufficient, fell back on the old hypothesis that furnished the early name to the disease, viz., that the irritation of the sympathetic (ciliary) nerves in the injured eye was sufficient to induce a similar form of inflammation in the fellow eye. Those who retained this belief and who, in confirmation of their contention, occasionally found alterations in the ciliary nerves of the sympathizing eye, failed to explain why migratory ophthalmia is rarely encountered except in penetrating wounds of the eye, and why it is particularly to be feared in infected wounds of the principal lymphatic area of the interior of the globe—the region of the ciliary body.

We are now well aware that the second eye is, in all likelihood, poisoned by the toxins excreted by pathogenic bacteria introduced into the "exciting" eye. Doubtless the time is not far distant when chemical reagents (and not the microscope hitherto relied on) will not only demonstrate the presence of these alkaloidal poisons in the "sympathizing" eye, but will reveal the name of the bacterium or bacteria that originally furnished them. This probability, as well as other questions regarding the part played by toxins in the production of inflammation, has, relatively, been little discussed. Strange to say, also, among the numerous elaborate, exhaustive and original investigations in bacteriology comparatively little has been done for what might be called bacterial toxicology. A sufficient reason for this lies, perhaps, in the marked instability of the toxins, their complex composition, the ease with which they form new combinations and the obstacles that oppose their isolation or classification. With few exceptions we have no reliable chemical tests for them, and have mostly to rely on their biologic reactions and relations.

No better exposition of the part played by toxins in inflammatory lesions has so far been published than the essay to which was quite lately awarded the Boylston prize.[1] This was prepared by Dr. Robert L. Randolph, who took as his experimental territory the rabbit's eye, using on it the following bacteria and their toxins: the *Gonococcus, Koch-Weeks bacillus, Bacillus diphtheriæ, Staphylococcus aureus, Pneumococcus, Micrococcus epidermidis albus, Streptococcus pyogenes, Bacillus coli communis* and the *Bacillus xerosis.* Randolph reminds us that experiments with the three bacteria first mentioned, as well as with the Morax-Axenfeld diplobacillus, are beset with many difficulties because they produce little or no reaction in the conjunctiva of animals, inasmuch as that membrane does not furnish a proper soil for their growth.

The work is divided into four parts; first, the study of the effect produced by toxins when they are instilled into the conjunctival sac; second, the results following their injection beneath and into the tissues of the conjunctiva; third, the effect produced by their introduction into the anterior chamber, and fourth, as an adjunct to or as a complementary study of the foregoing, the bacteriology of the normal conjunctiva of the rabbit, based on an examination of forty-seven cases. Forty experiments, recorded under the first heading, demonstrate that mere contact of bacterial toxins with the normal conjunctiva of the rabbit produces no local inflammation or other injurious effect on that animal. Randolph justly claims that his experiments are the first to demonstrate that, unlike alkaloidal and many other poisons, these chemically undefined toxins, excreted by bacterial cells, in common with similar poisons produced by certain cells of the higher order of plants, notably ricin and abrin, and of some animals, snake venom for example, are, as a rule, incapable of absorption by

1. Am. Jour. Med. Sci., November; See THE JOURNAL, Nov. 22, p. 1349, Abstract 60.

intact mucous surfaces. They demonstrate how very important it is to preserve the epithelial integrity of absorbing membranes against those poisonous agents that lie in wait to invade the organs they cover and protect. He does not attempt to prove or disprove Ehrlich's "side-chain" theory of infection, but he does assert that the primary and essential damage to the rabbit's conjunctiva, in the presence of pathogenic bacteria and toxins, is produced by the latter. If the bacteria are secondarily active during the infective process it is because the soil has already been prepared for them by the changes first wrought in the cells and tissues by the toxins. These contentions are further fortified by the numerous experiments included under sections 2 and 3. Randolph is able to show that bacterial filtrates from both old and young cultures contain irritative poisons that promptly set up local inflammatory changes when injected into the substance of the conjunctival mucous membrane. This is especially true of the toxins secreted by the gonococcus, the colon bacillus, the diphtheria bacillus and by all the pyogenic cocci. On the other hand, control injections of the uninoculated culture media, in larger doses, produced no effect.

It was not surprising to find, after the results obtained by intraconjunctival injection of the toxins, that unequivocal reactions follow their introduction into the anterior chamber of the eye. Filtrates were employed in these experiments, not only from bacterial cultures already known to produce powerful toxins, but also from some others not before shown, by the biologic tests, to secrete active, soluble toxins. In every instance Randolph was able to demonstrate that the intraocular (especially the intraconjunctival) reaction is more delicate than the usual antiserum or other biologic test in determining the presence or infective quality of the various toxins. That the toxins concerned are not simply the "bacterio-proteins" of Buchner, derived from macerated and degenerated cells, is proved by the use of young cultures only. The conjunctival sac of the rabbit's eye, as in the human organ, was found to harbor numerous bacteria, pathogenic and harmless, and there is reason to believe that both in man and in the lower animals these vary from time to time as to number and pathogenic quality.

The "practical" conclusion to be drawn from this work has long been known to us; we are comparatively safe from microbic invasion as long as the protective epithelium that covers our bodies and lines our canals remains intact. For example, mere rubbing of an eye into which a cinder or other foreign body has flown may result in its destruction from spreading ulcer of the cornea due to infection of the abraded spot from otherwise harmless colonies of the pneumococcus. May not this statement also hold good of bacteria in the pulmonary, intestinal and genito-urinary tracts? On the other hand, the precise character of the infective injury and our knowledge of the agents that produce it are more clearly defined than ever before from the painstaking investigations of Randolph.

THE PATHOLOGY OF CONVULSIVE DISORDERS.

The careful and systematic study of any one of the chronic convulsive disorders is certain to throw much light on all. The problem of discovering their nature and pathology must rest largely in the future on the correlation of such studies. The gradual change of the location of the lesion of convulsive diseases from the muscle, peripheral nerve, medulla and basal ganglia to that of the cerebral cortex has been brought about largely through detailed studies on isolated cases.

It is of particular interest to note that much of the newer work on the pathology of many so-called functional disorders, such as epilepsy, chorea, convulsive tics, myoclonies and the like, brings them more nearly to a common pathology and pathogenesis; that is, to an organic basis with a definite cortical lesion, degenerative in type. This has been well shown in the work of Clark and Prout[1] on status epilepticus, and still more recently on the association disease myoclonus-epilepsy.[2] The article consists of a careful review of the causes, symptoms, prognosis, pathology and treatment of the disease with the additional report of three new cases which, with one previously reported by Clark, constitutes the only ones on record at present in the English language. The authors summarize the gross pathologic lesions in the associated disease which have been found by previous workers to be slight meningitis and accumulation of cell elements about the vessels and ganglion cells, with some increase of the interstitial tissue products, often seen in degenerative processes of the brain and meninges—findings that throw but little light on the real pathogenesis of the disease. In one case of their own, examined under what are considered at present ideal conditions, the authors report definite and marked histopathologic changes.

"The characteristic lesion of epilepsy in the second or so-called sensory cell was found. This consisted in a destruction of the intranuclear network and its replacement by a granular substance. As a consequence of this change in the cell body abstraction of the nucleolus from the cell occurred easily and frequently in cutting the section. In addition to the epilepsy lesion which was found and conclusively proven to be present in various forms and conditions of the disease, identical cell destruction was found in the large pyramids of the third cortical layer. The large chromatic granules of the Betz or motor cells of the paracentral lobule were quite as much involved as the chromatic substance in the cells of the smaller type. Chromatolysis was extreme over the entire cortex. The general distribution of the lesions was striking; chromatolysis, absence of the nuclear membrane and the presence of granular and swollen nuclei, in every portion of the cortex examined.

1. Proceedings of the N. Y. Neurological Society, October, 1900.
2. American Journal of Insanity, vol. lix, No. 1.

It is essential to recognize that in these findings we have the lesion of epilepsy of the second layer cells, plus a maximum intensity of the same form of cell death in the large pyramidal cells of the third layer. Presumably the latter changes underlie the myoclonic spasm. The two diseases have a common soil of degeneracy, which is expressed in an organic cellular anomaly of the second and third layers of the cortex. This anomaly, constituting the predisposition, manifests itself at the supererogation of an immediate excitant in epilepsy and myoclonus. However, additional evidence of the constancy of the lesion supposed to underlie the myoclonus is very important and necessary. If the primary lesion is in the cerebral cortex and involves the autonomy and life of sensory and motor cells in the same death process, we must infer that the excitant is probably a general toxic or autotoxic agent, acting in a uniform manner on these particular cells. As before pointed out, the soil for the implantation of the association disease is so remarkably degenerative that the intoxication may be slight and transient only. It will be, therefore, doubly difficult to detect."

In a final conclusion the authors say "that the lesion of myoclonus epilepsy appears to be in the cerebral cortex involving the nucleus and the intranuclear network of cells of both sensory and motor types. Its pathogenesis appears to be an intoxication or autointoxication of these cortical elements, probably brought about by a faulty chemotaxis of these same cells because of an inherent organic anomaly. While each condition maintains its separate morbid entity the two are closely allied, and indeed are often found as indissolubly associated clinically and pathologically as are the motor and sensory functions of the cells they involve."

For years Chaslin, Féré, Marinesco and Binswanger have urged gliosis as the essential lesion of the epilepsies and, in point of fact, for all chronic convulsive disorders. The glial changes show themselves as a sclerosis of different cortical areas, especially of the cornu ammonis. But it now appears that such lesions are a result and not the initial or progressive part of the cortical lesion. From a pathologic standpoint it has long since been recognized that primary interstitial change in any tissue is steadily growing rarer. Primary connective tissue changes are almost unknown in the pathology of the nervous system. It does not seem, therefore, illogical that the initial parenchymatous change in the epilepsies should be insisted on by Clark and Prout. As these writers contend, it is quite possible that the earliest lesion of the cortex in epilepsy and allied convulsive disorders is one of destruction of the cell elements brought about by autotoxic agents, the ultimate result of which is a progressive glial replacement and overgrowth.

TREATMENT OF INOPERABLE MALIGNANT DISEASE.

The results of operative treatment of malignant disease, even under the most favorable conditions, are on the whole so discouraging that it is not surprising that cases which are clearly thought to be inoperable are frequently neglected. The large number of patients who fall a prey to quacks because of such neglect makes it the imperative duty of a practitioner to try every known means of alleviation, if not of cure, for these distressing cases. Means which have been employed with more or less success are numerous. Coley's serum is among the best known of such curative agents, and has undoubtedly cured a number of cases of spindle-celled sarcoma. It has not proved of any value in the treatment of carcinoma or of most other forms of sarcoma, and like other means of this kind should not be employed except in inoperable cases. Oöphorectomy in cases of carcinoma of the breast, as suggested by Beatson of Glasgow, has also proved a successful means of treating a small number of cases. The proportion of cases influenced by such treatment is very small, however, and it can not be relied on either as curative or palliative in any given case.

The latest addition to our therapeutic resources in such cases is the *x*-ray treatment. A discussion[1] on the use of the *x*-ray took place at the last meeting of the British Medical Association. Mr. Thomas Bryant of London reported two cases of recurrent carcinoma ot breast in which the disease was apparently arrested by the use of the *x*-rays, as well as some cases of rectal carcinoma which were benefited. Several others who took part in the discussion also reported favorable results from the use of the *x*-rays. The successes of several workers with the *x*-ray in this country are well known. The favorable results from all of these methods have been far too frequent to be due to chance, spontaneous cure, or errors in diagnosis, although the cures are so comparatively few in number that one would not be justified in advising any of these methods in truly operable cases. We say this in spite of the encouraging outlook in the use of the *x*-ray. Beatson spoke favorably of the use of thyroid feeding in connection with oöphorectomy, and Boyd has reported 17 cases in which the course of the disease was favorably influenced when this method was employed.

Among other measures, Adamkiewicz has used an aqueous solution of neurin citrate, which he calls cancroin, and reports[2] 6 cases which appeared to have been cured by this method. The results of cancroin treatment in the hands of others have not proved very satisfactory. Two years ago Vlaieff introduced a serum which he obtained by inoculating geese with cultures of blastomycetes derived from human carcinoma. The injections caused no risk to life, and he reported some cures from its use, but the investigation committee of Harvard Medical School reported negative results in both animal inoculations and cultural experiments with human carcinoma.

1. British Medical Journal, 1902, vol. II, pp. 1293-1307.
2. Berliner Klin. Woch., No. 24, 1902. See also THE JOURNAL, Aug. 16, 1902, p. 405, ¶91.

Besides curative means, much can be done with palliative measures in these cases. The relief of foul-smelling discharge by curetting or the use of the actual cautery and tamponing is often very great. Czerny even reported to the German Surgical Congress, 1900, a few cases which had been pronounced inoperable, but which were cured by excision or curettement and the use of 30 per cent. zinc chlorid solution. As a palliative measure the ligation of a main artery may be considered. Occasionally so much shrinkage of the growth occurs after ligation that radical operation is possible and hemorrhage can at least be prevented in this way. Formalin, arsenic pastes, iodid of potassium, injection of alcohol, electric treatment and many other measures have been used with more or less success and have their advocates. Although such means are not likely to give very brilliant results, there seems to be no reasonable objection to trying them, particularly in cases in which patients have heard of their value and desire to try them.

With few exceptions all attempts to cure malignant diseases by means other than early and free operation have hitherto proved almost invariably futile, but we believe that inoperable cases can be handled more successfully as regards the relief or possible cure of the patient by regular practitioners of medicine than by quacks. Those who are persevering in the treatment of such cases will undoubtedly be occasionally rewarded by obtaining a cure. Such cases should certainly not be allowed to fall into the hands of quacks, who most frequently extort exorbitant sums of money and only add to the sufferings of the patient. The active investigations which are being made in so many different countries as to the cause and nature of carcinoma seem more likely to lead to means of prevention and cure in such cases than any treatment which is at present known.

OSTEOPATHIC LAW.

A Missouri judge has recently given a medicolegal decision that it seems to us will hardly stand the revision of the higher courts. It is in effect that in cases of malpractice the testimony only of physicians of the same alleged school of practice as the medical party in the case can be accepted. The case in court was one against one of the osteopathic Stills of Kirksville, Mo., and the judge ruled that the study of one school of medicine did not qualify a practitioner to give an intelligent opinion on the work of one of another school. Osteopathy is thus impregnably fortified by this Missouri decision as long as it stands, a fact that is worth advertising for the benefit of those who may propose to submit themselves to osteopathic massage. If they do not get satisfaction from the operation or treatment they need not expect to get any more from this judge or other Missouri judges who, like him, stand up for the institutions of their state. Another osteopathic decision is reported as handed down by a Colorado judge, who decides that the osteopaths have a right to advertise themselves as doctors and to practice independent of any restrictions by the state law. This, we understand, is also a lower court decision, and may be revised. If not, a little more legislation is required in Colorado.

THE USELESS CORONER.

The movement to abolish the office of coroner in New York seems to be one that ought to receive the general support of the profession. The office is an antiquated one that has survived its usefulness and really only exists as a political plum; its judicial functions could be better exercised by other officials provided for by law, and its medical duties would be much more satisfactorily attended to by medical men without interference by laymen or subordination to politicians. The name of the office is itself an anomaly in a republican government, and it is a little remarkable that it has been so long endured, when its imperfections were a matter of satire and ridicule even in Shakespeare's day. The experience of Massachusetts has shown the needlessness of the office, and it is the more surprising that the common sense of other commonwealths has not before this induced them to follow her example in abolishing it. If it is, as is stated, not a constitutional office in New York, its abolition ought to be an easy matter; some other states are probably not so well off, and will have to endure this expensive relic of monarchical barbarism the longer. The action in New York, however, will be a stimulus to reform in this matter elsewhere.

MUSIC AND SCIENCE IN TUBERCULOSIS.

Down in Missouri they have novel methods of prophylaxis. Music of a certain kind has been found to drive away its hearers, but the use of this means to expel the bacilli of tuberculosis is, to say the least, unique. In Holy Writ we are told that devils were cast out by adjurations; and various savage tribes use tom-toms and other barbaric musical instruments to exorcise demons and thereby cure disease; it remains for Missouri, however, to combat dread tuberculosis by a judicious combination of useful information and music. At the first public meeting of the Missouri State Society for the Prevention of Tuberculosis in Kansas City, December 2, the program appropriately began with Mendelssohn's Wedding March, followed by an address on "The Necessity of the Movement." Relief was then afforded by two songs, "I Love Thee" and "The Violet." "The Necessity of Registration" was next discussed, after which a quartette sang the "Spring Song" and "Oh, Hush, Thee, My Baby." After an article on "The Danger in Our Schools from Consumption" a Chopin polonaise was played, supposedly to relieve the tension. The next address on "Contagiousness of Consumption" was gruesomely followed by a song "Till Death." And so the program went on with sandwiches of science and art. The report is incomplete, as it does not detail the effect of the alternate mental strain and relaxation on the audience. It would be interesting to contemplate the effect if such an innovation were made to relieve the strenuousness of the programs of some of our solid, not to say stolid, medical society meetings.

VALUE OF VIVISECTION TO BRAIN SURGERY.

Dr. Keen sets a commendable example by publishing direct and striking evidence of the value to man of animal experimentation. Senator Gallinger holds a medical degree (Homeopathic), and probably this is why he has been selected to represent the antivivisection cult in the Senate. To him Dr. Keen addressed the letter which is published elsewhere,[1] describing a case cured by an operation, the success of which was made possible through knowledge obtained from experimentation on animals. It is only one concrete example of what is occurring constantly wherever medicine is practiced. Midshipman Aikin recently sustained at Annapolis an injury to the head while playing football. No fracture of the skull could be found, but there was visible a slight bruise at the outer end of the left eyebrow. Soon after the accident he became unconscious, but later slightly rallied and complained of bad frontal headache. Soon after this he began to develop convulsions, and within six and one-half hours had clonic spasms of the right arm twenty-four times—a bad outlook for the patient. The physicians and surgeons of this country could in a year's time furnish Senator Gallinger with hundreds, if not thousands, of cases as conclusive as this, in which lives have been saved as a result of knowledge obtained from vivisection. In order that public opinion may be educated in this regard, it is important that some of the constantly occurring cases should be thus given to the public.

IDENTIFICATION BY PALM AND SOLE PRINTS.

A number of observers have recently called attention to the fact that the finger prints of different individuals are perfectly characteristic and that they may be used as a means of identification. Francis Galton has studied the subject most elaborately, and his books on "Finger Prints" and "The Decipherment of Blurred and Indistinct Finger Prints" are well known to those interested in such matters. Prof. H. H. Wilder[2] of Smith College again calls attention to this subject and gives some interesting data as regards the prints from the sole of the foot as well as from the palm of the hand. He mentions recent interesting studies made by Colonel Mallory of the United States Bureau of American Ethnology, who has found scratchings on the slaty rocks near Lake Kejenkoojic in Nova Scotia, which are supposed to be the work of aboriginal Micmac Indians and date back to pre-Columbian times. These scratched drawings of the lines of the palms and soles show a remarkable degree of detail which must have been the result of unusually careful observations. The scratchings on the tip of the fingers have also been interpreted as either indicating walking pads or it has been suggested that the reason that they have been used is the idea of some primitive people that originally each part of the body terminated in an organ of sense, particularly an eye. From this was supposed to result the fancied resemblance between the shape of the pattern and the eye. One of these explanations seems more likely than that the aborigines were really careful students of palmar and plantar prints. A study of the prints from the sole of the foot leads Wilder to believe that the sole prints are as characteristic in their patterns as are the prints of the palms, and he suggests that in the majority of cases even a cursory study of the main lines and areas of prints of the soles and palms would be sufficient to identify an individual. This might be made use of, he believes, as a means of identification, which would be a very practical extension of the Galtonian system. Such a system of identification by prints would be useful in the numerous cases in which identification of the body living or dead becomes a matter of importance for whatever reason. There are countless cases of this kind in which identification is a matter of doubt and uncertainty and great expense is involved. The system, Wilder believes, would prove a better and surer guide than the usual rogues' gallery photograph or even a set of Bertillon measurements. It would be available in many cases in which from accidents of various sorts bodies are mutilated so as to render recognition very difficult.

1. See page 1537.
2. Popular Science Monthly, November, 1902.

Medical News.

DISTRICT OF COLUMBIA.

Morbidity and Mortality of the District.—The cases of typhoid fever have now fallen below 300. During the week ended November 22, five deaths were reported from typhoid fever. The total mortality for the week showed a decrease of 20 per cent. as compared with the preceding week. The deaths for the week numbered 91, equivalent to an annual rate of 16.2 per 1000.

Resolutions Regarding Dr. Reed.—The faculty of the Columbian University has passed resolutions regarding the death of Dr. Walter Reed, U. S. Army, professor of bacteriology and pathology in the medical school of that institution.——At a meeting of the student medical officers, U. S. Army, class of 1902-1903, November 26, resolutions were adopted expressing the great sorrow of the members of the class for the sudden and untimely death of their beloved professor and associate, Major Walter Reed, surgeon, U. S. Army.

Change in Emergency Hospital Rules.—Members of the board of directors of the Emergency Hospital accepted an interpretation of the rules of the institution at a meeting held recently, which will work a marked change in the administration of the hospital. Hereafter the executive officer of the institution will not have authority to discharge the resident physician or either of the two assistant resident physicians. The new interpretation of the rules provides that the entire board of directors must act in charges preferred against physicians and take action leading to their dismissal.

ILLINOIS.

Coroner's Cases in November.—Of the 229 cases passed on by the coroner in November, 36 were suicides; 31 deaths were due to railway accidents; 26 to falls; 16 to alcoholism, and 13 to burns.

Isolation Hospital at Parental School.—An isolation hospital for the temporary shelter of pupils afflicted with contagious diseases will be built at the parental school at a cost of $3000, an appropriation for this purpose having been made, December 5, by the buildings and grounds committee of the Board of Education.

Decision Against Dr. Neely.—On December 3, Judge Dunne directed that the temporary injunction issued in the case brought by Adolph Ender to restrain the president of the county board and the county clerk from signing warrants for the payment of salaries to Medical Director John R. Neely be made permanent. He declared the Cook County Civil Service Commission should have made the examination of applicants for this position a promotional one instead of original. He further declared that the evidence showed that a promotional examination could have been held for the office of medical director, as there were several physicians in the same class with Dr. Neely. An appeal from the ruling will be taken to the upper courts.

Chicago.

Alleged Licenseless Practitioner.—Mrs. Mary L. Lambert was arraigned, December 1, on the charge of practicing medicine without a license. After the preliminary hearing, the case was continued by agreement.

Extension of Presbyterian Hospital.—The Presbyterian Hospital has bought two residences on Ashland Avenue and Congress Street, for $40,000. They will be remodeled immediately, and will be opened, January 1, as a home for nurses connected with the hospital.

Personal.—Dr. Albert H. Hoy and family have returned to Chicago, after an absence of eighteen months abroad.——Dr. Otto T. Freer has opened an office in the Venetian Building.——Dr. James B. Herrick has been appointed to the department of internal medicine, and Dr. John E. Rhodes to the department of laryngology in St. Mary's of Nazareth Hospital.

The Week's Deaths.—The total deaths—528—last week are 80 in excess of those of the previous week and the indications now are that the total deaths for the year will be fully 1600 more than the number for 1901. This will give an annual death rate of about 14.30 per 1000 of population for 1902, as compared with 13.88 for 1901—an increase of 3 per cent. The diseases chiefly threatening the public health at the present time are pneumonia and influenza. This latter disease, although prevalent since the early fall, has thus far been of a mild type, but there are indications of a growing virulence of the germ during the past fortnight.

No Insusceptibility to Vaccination.—The chief medical inspector, Dr. Spaulding, in the health board's bulletin, says:

> Several times recently attention has been called to a false impression concerning insusceptibility to vaccination held by many persons and even by some medical men. They argue that because a child has had six or seven attempts at vaccination, without its "taking" that the child is insusceptible to the operation, and have asked permission for such child to enter school without the required certificate. They have even come with a letter from the family physician, stating that a given child is insusceptible. It should be clearly understood that no one is insusceptible to vaccinia or vaccination. One successful vaccination can be secured in every person; to this there is no exception. Repeat the attempt until it does "take."
>
> A striking and hideous illustration of the evils of teaching insusceptibility to vaccination was furnished during the week in the neighboring town of Hammond, in which a cashier in the bank was stricken with smallpox in its worst form. He died on the seventh day of the attack with hemorrhagic smallpox. He had had four attempts at vaccination, and because it did not "take" was told he was insusceptible to vaccination—a bit of medical advice which cost him his life at the age of 33—an utterly needless loss of a life useful to the community and of priceless value to his family.

IOWA.

Alleged Illegal Practitioners.—Bruce Gardner, Davenport; A. E. Porter, Fort Madison, and Dr. Rae, Estherville, have been arrested on the charge of practicing medicine without a license.

Bill of Sale Filed.—A bill of sale was filed, December 1, conveying the property of the *Iowa Medical Journal* from E. G. Ragsdale to the Dorr Investment Company, Des Moines, for a consideration of $2000.

In Memoriam.—In memory of Mrs. Henrietta W. Dows, St. Luke's Hospital, Cedar Rapids, is to be given a complete surgical department, consisting of three rooms and a corridor, thoroughly equipped, by Hon. S. L. Dows and children.

Personal.—Dr. Grant J. Ross, Sioux City, has been appointed a member of the Woodbury County Board of Insanity Commissioners, vice Dr. Van Buren Knott.——Dr. C. D. Harlan, Clarinda, a member of the staff at the State Hospital, has accepted an instructorship in surgery in the State University, Iowa City.——Dr. William S. Lessenger, Mount Pleasant, has been elected vice-president of the Southeastern Iowa Medical Association.——The office of Dr. George Inglis, Monticello, was destroyed by fire, November 30.

MARYLAND.

Baltimore.

Personal.—Dr. Martin B. Billingslea is very ill with a carbuncle on his neck.——Dr. Peter H. Reiche is recovering from an attack of pneumonia.

Detention House Leased.—The health department has leased a detention house for smallpox suspects or those who have been in contact with smallpox cases. Genuine smallpox cases found in the city will, however, be sent at once to quarantine.

The Fight Against Smallpox.—The health board has expended $5700 of the $10,000 appropriated to its use at the beginning of the year for the purpose of combating smallpox. The success in preventing its lodgment here to any considerable extent is most praiseworthy.

In Memory of Professor Friedenwald.—A memorial meeting in honor of the late Prof. Aaron Friedenwald was held at the College of Physicians and Surgeons, December 2. Addresses were delivered by Drs. William Simon and John Ruhräh. Appropriate resolutions were offered by Dr. George J. Preston of the faculty.

Death and Disease.—The health department reports measles still increasing; 247 cases were reported last week, although the type is mild. There were 186 deaths, a death rate of 17.23 per 1000 per annum. From pneumonia 20 died; from bronchopneumonia, 7; from bronchitis, 6; from typhoid fever, 3; from measles, 2; from consumption, 7, and from diphtheria, 1.

Magness Forfeits Bond.—News has been received from West Virginia that Dr. Thomas H. Magness has forfeited the bond of $500 given by his attorney to secure his appearance to answer the charge of taking the state medical examination in the name of David R. Shepler and swearing falsely to his identity. It is said that the warrant for Dr. Magness was lost or stolen, and that the State Board of Health of West Virginia will institute an inquiry into the case and prosecute the guilty party.

Lorenz in Baltimore.—Dr. Adolf Lorenz arrived, December 6, and became the guest of Dr. R. Tunstall Taylor, surgeon-in-charge of the Hospital for Crippled and Deformed Children. He delivered a lecture in the anatomical hall of the University of Maryland, and demonstrated his method of reducing congenital hip dislocation on a little girl. On Sunday he visited the Hospital for Crippled and Deformed Children, and on Monday visited the Johns Hopkins Hospital and left for Philadelphia the same afternoon.

Medical Colleges.—According to the new register of the Johns Hopkins University, just out, there are 69 professors and instructors in the medical department; 258 medical students, and 72 physicians attending special courses. The number of matriculates in the University of Maryland School of Medicine this year is 390. The Baltimore Medical College has about 425 students. The College of Physicians and Surgeons about 325, and the Maryland Medical about 200. The Woman's Medical College has a very small class.

NEW YORK.

Smallpox in Rochester.—On November 29 there were 122 smallpox patients in Hope Hospital, Rochester.

Consumption Among Convicts.—Superintendent of Prisons Collins will report to the next legislature surprising results of the scientific care of consumptive criminals. The large death rate in the prisons previous to the past few years was due mainly to consumption, and to minimize, if possible, this condition, Superintendent Collins has had all consumptive prisoners sent to the state prison at Dannemora, in the Adirondacks, one of the best places in the world for the treatment of the disease. Here the consumptives were subjected to a special treatment in the prison hospital, with the result of an estimated decrease in the death rate from this cause of 71 per cent. in the past five years compared with the five preceding years.

The Care of the Insane.—Important conferences under the direction of the State Commission in Lunacy have been held during the present week in the pathologic institute on Ward's Island, New York. The newly-chosen director, Dr. Adolf Meyer, has delivered a series of lectures on the scientific treatment of the insane, which have been attended by all the superintendents of the state hospitals and other interested scientists in this and other states. President Peterson of the commission has united with Director Meyer in urging that still greater attention be paid to the acute insane admitted to the state hospitals, and the commission believes that a fresh impetus to the study of causation as well as treatment will result from the conferences.

New York City.

Acid Fumes in Cars.—For a long time the fumes from the storage batteries in certain electric cars have caused discomfort and ill health among passengers. The board of health has taken a firm stand against the nuisance, and the car company has yielded to the pressure by fitting up several cars with a device, suggested by Dr. Hudson, for carrying the acid fumes some distance above the roof of the car. This arrangement is said to operate very well.

Personal.—Dr. Otto H. Schultze has been appointed coroner's physician, vice Dr. Hamilton Williams, resigned.——Dr. Philip F. O'Hanlon has been confirmed as coroner's physician.

——Dr. Jesse P. Duryea, who has been general medical superintendent of the King's County Hospital and Almshouse since 1898, resigned, December 10. At a farewell reception to Dr. Duryea, December 3, he was presented by the employes of the hospital with a diamond ring.

New Plans of Health Department.—One of the most important of the new plans involves the establishment of an East Side branch of the health department that, the commissioner promises, is to be in working order by next March. It will be open day and night, to attend to vaccination, and will have a complaint bureau and a place for the issuance of certificates to relatives and friends to visit patients in the public hospitals, thus sparing residents of the district the necessity of making the long trip to the head office.

Medical Supervision of the Isthmian Canal.—The New York Academy of Medicine, in view of the demonstrated ability of proper sanitary measures to control malaria and yellow fever, has adopted a resolution, declaring that the amplest powers should be given to the medical officer in charge of the sanitation of this canal, calling the attention of the President of the United States to this fact, and asking that the President, as the one authorized to appoint the commission, see to it that the medical officer be made a member of this commission.

Alleged Death from Tetanus Following Vaccination.—On November 30 a boy living in the borough of the Bronx died from what is reported to have been tetanus. The parents allege that the boy was vaccinated, November 19, by one of the physicians of the health department, and that within twenty-four hours the boy began to complain of muscular pains. If this statement is correct, of course the vaccination can not be held responsible. It is also reported that at the same time a servant in the family was vaccinated. The case is being investigated by the board of health.

Typhoid Prophylaxis.—A committee has been appointed by the New York German Medical Society, consisting of Drs. Abraham Jacobi, Isaac Adler, George W. Jacoby, Richard Stein, Leonard Weber and Fritz Schwyzer to make suggestions regarding the prophylaxis of typhoid fever. After enumerating, in a letter to the mayor, board of health and aqueduct commissioners, the ravages of the disease in New York, the committee calls attention to the following important suggestions: Care in supplying good drinking water; enlightening the public; bacteriologic control of ice and oysters, and supervision of public closets.

Foot and Mouth Disease.—The health department of New York City has issued the following order: "All cars bringing cattle from New England states or from any part of New York State shall be accompanied by a sworn certificate stating that the car has been properly disinfected. On the absence of such certificate or on the declaration of this department that it has reason to believe that such disinfection has not been properly carried out, it shall be within the discretion of this department to order that cattle conveyed in such cars shall not be permitted to enter the stockyards of this city, but shall be ordered at once to a slaughter-house for immediate slaughter."

Buffalo.

Personal.—Health Commissioner Greene and City Bacteriologist William G. Bissell are attending the meeting of the American Public Health Association at New Orleans.——Dr. Jacob M. Krause has returned from Denver.

Exposure of an Impostor.—The *Buffalo Review*, a morning daily paper, deserves the appreciative thanks of the laity and medical profession of Buffalo for its exposure of an individual calling himself "Antonius the Boy Wonder," who practices magnetic healing and absent treatment on the poor and unwary. This journal states that Antonius is a faker, and many instances are given of his deception of poor cripples and the methods he employs of obtaining money from those least able to pay. This individual has been driven out of many cities, but because of the inactivity of the district attorney's office he has been allowed to remain in Buffalo.

PENNSYLVANIA.

Personal.—Dr. James V. Harsha, acting city physician of McKeesport, has resigned, and Dr. Frank John was elected in his stead.

Typhoid at Monessen.—An epidemic of typhoid fever prevails at Monessen. The cause is supposed to be contaminated well water.

Hospitals for Epileptics and Criminal Insane.—The State Board of Charities has decided to ask the state legislature for appropriations for the erection of a hospital for epileptics and a separate institution for the criminal insane now confined in the state penitentiaries.

Urges Extension of Sewer System.—At the monthly meeting of the Reading Medical Association resolutions were adopted recommending that the city authorities take such necessary steps to extend the house sewerage system that all parts of the city may be included.

Philadelphia.

The University Day Oration.—Dr. S. Weir Mitchell has accepted an invitation from the board of trustees of the University of Pennsylvania to deliver the University Day Oration at the yearly commemoration of Washington's birthday.

Clinic for Children.—A clinic for children, including a nursery for motherless infants, has been established at the Jewish Maternity Hospital. Dr. I. Valentine Levi is in charge of the department, and Dr. Eleanor C. Jones is consulting pediatrist to the new department.

Illness and Death.—For the week ended December 6, 129 new cases of typhoid fever were reported, with 8 deaths. Six new cases of smallpox were reported, with one death. There were 450 deaths from all causes, a slight excess over the number for the corresponding week of 1901. There are said to be about 1200 patients at present under treatment for typhoid fever.

Abolition of Board of Charities and Correction.—Dr. John V. Shoemaker, president of the board of charities and correction, will, in his next annual report to the mayor, recommend abolishment of the board, and that the charities be placed under a commissioner and the house of correction in the department of public safety. The recommendation is one result of a visit made by the board to the public institutions of New York. The departments of charities and corrections in the latter city are presided over by commissioners who give their whole time to the work and are salaried officers. The inmates are also required to work. Neither of these conditions prevails in Philadelphia.

GENERAL.

Cholera is estimated to have cost 126,000 lives in the Philippines out of 208,000 cases thus far.

Southern Pacific Hospital Car.—This road is to have a car completely furnished as a hospital on wheels, with headquarters at Houston, Tex. The equipment includes an operating room.

Will Call Plague Conference.—Surgeon-General Wyman of the U. S. P. H. and M.-H. Service is reported to have said he would soon call the convention of all state boards of health that several of them have asked for.

"Dixie" To Be Hospital.—The Navy Department has approved the remodeling of the *Dixie* into a hospital ship. She will be only one of her kind. The complete overhauling and refitting will cost nearly a quarter of a million dollars.

Hawaiian Lepers Captured.—Three lepers, who have lived in the mountains of Hawaii and subsisted on the results of depredations, have at last been captured. They had all approaches under observation and were warned by friendly natives whenever attempts were made to find them. They were captured by a ruse. It is reported that two others are hidden in the same locality.

Many Deaths on Lakes.—The season of 1902 records 140 deaths on the great lakes, an increase over all previous years; 53 sailors went down with their ships, 47 men fell overboard and were drowned, and 15 lost their lives in collisions. Lake Erie was the grave of 59; Superior, 40; Michigan, 14; Huron, 22; Ontario, 54; the Detroit and St. Croix rivers, 10. The total loss of life on the lakes for each of the past seven years is as follows: 1896, 66 deaths; 1897, 88; 1898, 95; 1899, 100; 1900, 110; 1901, 132; 1902, 140.

Many Hawaiian Licenses Void.—Because of errors in office by former Treasurer W. H. Wright, twenty-nine physicians of Hawaii, sixteen of them Japanese, must pass new examinations. The chief error was in allowing a board of examiners to hold office for three years instead of two, as the law provides. During the unlawful period the board of medical examiners was out of harmony with the board of health. One disputed point was the admission of Japanese to practice and the requiring them to be examined in English. As the board of health favored a more rigid examination and was overruled by the examiners and the treasurer, the new examinations are expected to be more severe, and several Japanese have applied for an injunction against the loss of their present licenses.

Gibbs Memorial Prize.—The New York Academy of Medicine will award $1000 to the author of the best essay on "The Etiology, Pathology and Treatment of the Diseases of the Kidney," presented by Oct. 1, 1904. Essays must be in English, typewritten, designated by a *nom de plume*, accompanied by a sealed envelope bearing the same *nom de plume* and containing the name and address of the author. No envelope will be opened except that of the successful author. There will be no award if no essay shall be deemed worthy. Unsuccessful essays will be returned if claimed within six months. An essay must show originality to obtain the prize. Members of the regular medical profession of the United States may compete. The original of the successful essay shall be the property of the academy, and will be published in its transactions. Essays should be sent to the Committee of the Trustees of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize, 17 West 43d Street.

CANADA.

The Royal Victoria Hospital, Montreal, reports for the month ending November 30: Patients admitted during the month, 248; discharged, 252; died, 8; highest number on any one day, 207; patients under *x*-ray treatment daily, 22; ambulance calls, 52; visitors to the wards, November 23, 468.

The Montreal General Hospital reports for November 254 admissions; 241 patients discharged; 23 died; the average in residence has been 193; the highest number on any one day has been 205; ambulance calls, 108. Typhoid fever cases showed 11 for the month as against 24 in 1901, same month.

Medical Council of the Yukon Territory.—The election of members for the medical council of the Yukon Territory, Canada, for 1902, resulted as follows: President, Dr. D. MacLeod; vice-president, Dr. Barrett; registrar-secretary, Dr. A. E. Edwards; executive committee, Drs. Barrett, Sutherland and Alfred Thompson, with president and registrar as *ex officio* members.

To Check Spread of Tuberculosis in Montreal.—Last week a very largely-attended meeting was held in Montreal, presided over by Lord Minto, governor-general of Canada, for the purpose of considering what measures should be taken for the prevention and cure of tuberculosis. A committee was appointed to create an enlightened public interest, and to further the employment of all means whereby it may be prevented or its ravages lessened.

To Vote for a Sanitarium for Toronto.—The City Council of Toronto has adopted the recommendation of the board of control to submit the following question to the ratepayers at the January city elections: Are you in favor of the city contributing $50,000 toward the establishment of a sanitarium for the treatment of residents of Toronto suffering from consumption? This is in lieu of a money by-law for which there is said to be no legal authority.

Toronto and Trinity Medical Banquets.—The students and medical faculties of both Trinity Medical College and the University of Toronto held their annual banquets December 3. Professor Barker, '90, Toronto, of the University of Chicago, was present at the latter, and in proposing the toast of "The Professions," delivered an able address on the tendency of medical science. Probably the speech of the evening at the Trinity banquet was that delivered by Dr. T. S. Harrison, a general practitioner of Selkirk, Ont., who is still in active country practice at 75, who gave some very humorous experiences of practice in this province fifty years ago.

Personal.—Dr. Charles B. Shuttleworth of Trinity Medical College, Toronto, has succeeded in passing the examination for F.R.C.S. England; Dr. George W. Badgerow of the same city has passed the M.R.C.S. examination.——Dr. A. P. Crockett of Fredericton, N. B., returned, November 29, from England and the Continent.——Dr. Patrick B. Handyside, for five years in charge of the Naval Hospital at Esquimalt, B. C., has been replaced by Dr Homer, who, with his family, is now en route from England.——Dr. Robert Wilson, professor of pharmacology and therapeutics in the University of Bishop's College, Montreal, is recuperating his health in the White Mountains.

Canada's Drink Bill.—The annual report of the Inland Revenue Department for the year ending June 30, just issued this month, states that the quantity of spirits produced during the year was 3,234,147 proof-gallons, as compared with 2,652,708 for the previous fiscal year. The people drank more spirits and beer last year than they did in the previous year. The quantity of spirits consumed was .796, as against .767 for the previous year. Beer was 5.102 as compared with 4.737 for the previous year; and .090 of wine, as against .100 for 1901. Tobacco was the same as last year, the figures being 2.404. Of cigarettes there were consumed 134,236,034, as against 121,383,584 for 1901.

Toronto Insane Asylum.—Charges of a general character have lately been appearing in the society columns of one of Toronto's daily papers against the attendants and nurses of the Toronto Asylum for the Insane, of various cruelties against patients. Dr. Daniel Clark, the medical superintendent, replies to these, stating that they have no foundation, and that they have simply been the cause of much annoyance to the fifty-four persons who attend on the insane in that institution. This is the first time, he states, during the twenty-seven years of his superintendency in which charges have been made against the institution. He concludes his letter asking for names and facts, as he is anxious to refute such sensational allegations.

Public Health in Hamilton, Ontario.—Dr. Walter Langrill, medical health officer of Hamilton, Ont., presented his annual report at a meeting of the Board of Health of that city, December 1. It showed that during the year there were 691 cases of infectious diseases. Of these 106 were diphtheria, with 24 deaths; 64 were cases of typhoid fever, with seven deaths; five were cases of smallpox, with no deaths. The other cases were divided as follows: Scarlet fever, 97, 3 deaths; chicken-pox, 74, no deaths; mumps, 11, no deaths; measles, 222, 2 deaths; whooping cough, 112, 13 deaths. In all 744 deaths were registered, the death rate being 13.7 per 1000. The infant mortality was high, there being 137 deaths of children under the age of one year. Among the general causes of death were: Cancer, 45; heart trouble, 83; tuberculosis, 105. Hamilton has decided to report cases of tuberculosis to its medical health officer.

FOREIGN.

Influenza in England is reported as unusually severe.

Koch Summoned Again to South Africa.—The authorities of Rhodesia have appealed to Robert Koch to assist in the campaign against cattle plague, which is recrudescent.

Smallpox in Greek Archipelago.—A severe outbreak of smallpox is causing great loss of life in the Furni Islands, near Samos, Greek Archipelago, with almost no medical aid available.

Memorial to Widerhofer.—The emperor of Austria has ordered a portrait bust of Widerhofer which he intends to present to the St. Anna Children's Hospital, where the deceased was director for forty years.

Proposed Nurse Schools in France.—The present prime minister of France is a physician, and one of his first acts was to insist on the enforcement of a decree of 1893 calling on the municipal authorities of all towns where there is a medical school to organize a training school for nurses.

Distress in England.—The returns of the London Board of Trade show more unemployed unskilled labor than for ten years. There is much distress among the lower classes. There are 56,000 members of the army released from service who will add to the number of the unemployed. Public subscriptions are being made for relief.

Anti-Nicotin Cigars Injurious.—The Austrian authorities announce that the chemical treatment of tobacco by Professor Gerold's method does not free the cigars from nicotin, while the chemicals used are more or less injurious. The tests showed .9 to 1.17 per cent. nicotin. The Austrian standard cigars contain 1.29 to 3.99 per cent.

Campaign Against Charlatans in Germany.—A civil suit was recently brought by a physician against a druggist at Breslau who advertised that he would cure all cases of stuttering under guarantee. The physicians managed the case well, and secured conviction and a fine. These cases against charlatans have hitherto been tried in the criminal courts.

The new home of the Paris Academie de Medecine was formally inaugurated by the president of the republic, November 25. The building adjoins the Ecole des Beaux Arts, and is in four parts, each four stories, one devoted principally to the famous library of the academy and one to the vaccination service. This includes stables for the calves, laboratories and waiting rooms for the persons applying for vaccination. The assembly hall is nearly twice as wide as it is deep, with a broad platform and 110 seats. The membership is limited to 100. The expense has been borne by legacies, private subscriptions, and some aid from the state.

LONDON LETTER.

Manufacture of Madmen a Result of the Law of Lunacy.

At the Medico-Psychological Society Sir William Gowers pointed out in an important paper a great defect in the existing Lunacy Laws, which tended to the production of insanity. The law decrees that all persons of unsound mind shall be treated alike, certified as insane, deprived of liberty, and placed under the control of the Commissioners in Lunacy. There is the large class of border-line cases, patients on the verge of insanity, some just over it. Many of them who might recover may be actually rendered insane by the process of being declared so, which certification constitutes. Such cases are very numerous. The nature of the process of certification can not be concealed from many patients, and is most clear to those to whom it is most harmful. Many on the brink of insanity are always haunted by the question: "Shall I go mad?" To them it sounds the knell of hope, for it gives the answer "You are mad." All the security the present law could give, and more, said Sir William Gowers, and all its harmful effects would be avoided by a system of notification. The time has certainly come when a commission should investigate both the work and the constitution of the board of lunacy, and the working of the lunacy act. The twelve years which have elapsed since the act was passed have furnished ample experience of its effect and deficiency. As a temporary measure he proposed that a brief enactment should be passed that the provisions of the lunacy act relating to private patients taken for payment should apply only to such cases as, in the judgment of the commissioners, need to be certified and detained in their own interest or for the safety of others. Among the audience were Sir William Church, Sir William Broadbent, and other distinguished physicians, most of whom addressed the meeting. The matter was unanimously referred to the Parliamentary Committee.

The Sanitation of Lagos.

Sir William MacGregor, the governor of Lagos, who is a medical man, has acquired a reputation as a sanitary pioneer which renders him quite unique among colonial governors. His efforts to improve the health of his deadly West African Colony have been more than once described in THE JOURNAL. At the invitation of the African Trade Section of the Liverpool Chamber of Commerce his excellency was entertained at dinner. Sir Alfred Jones, a Liverpool merchant to whose munificence the Liverpool School of Tropical Medicine is greatly indebted, and who has furnished the means for the various expeditions of that school for the purpose of investigating tropical diseases, presided. Several members of the staff of the school were present. Sir Alfred Jones spoke of the great debt the country owed to Sir William MacGregor for his efforts in West Africa. Replying, the governor said it had been his policy from the beginning in trying to improve sanitation in Lagos, not to confine their efforts to the people of one race or color, but to take along in one line both Europeans and natives. He had always been opposed on principle to the idea of separating the Europeans from the natives in order to avoid contracting malaria from the natives. Of course, the progress will be at a slower rate so far as Europeans are concerned, but if slow it will be sure, and this is the only way of arriving at the extermination of malaria in a place like Lagos. If malaria is mastered, he thinks there is a great future before Lagos. He had no doubt Lagos could be made a fairly healthy place. It is built on a sand island, having a sea breeze. It was announced at the dinner that a chair of tropical medicine had been endowed at University College, Liverpool, by special contributions amounting to over $50,000, which included the munificent donation of $25,000 from Sir Alfred Jones, and also $2500 from the Hon. R. B. Blaize, Lagos. The committee will ask the authorities of University College to appoint Major Ronald Ross, C.B., as the first professor, and to call this chair the Sir Alfred Jones Chair of Tropical Medicine and Parasitology.

PARIS LETTER.

Renault and Danlos Against Mercurial Injections.

According to Drs. Renault and Danlos injections of mercury should be rarely employed, and resort should only be had to them when other methods such as ingestion or inunction have failed to produce any effect. They are less practical and sometimes dangerous.

The Treatment of Hypertrophy of the Prostate.

The treatment of hypertrophy of the prostate, which has entered on a new phase since prostatectomy has come into favor, was the subject of discussion at a recent meeting of the Society of Surgery. Two of the younger school of surgeons, Dr. Albarran, the son-in-law of Professor Guyon, who is a native of Cuba, and has a marked foreign accent in French, and Dr. Legueu, recently made surgeon of the hospitals, were the champions of this operation. Dr. Legueu had operated twelve times, with a fatal result in one case, an old man of 72, who had diseased kidneys and infection. Dr. Legueu considers it well to incise the urethra immediately, as it is sure to be cut later on in the operation, with doubtful results. He also advocates removing the whole of the prostate gland in two or three large portions. He had noticed as a complication extensive hemorrhage and a tearing of the rectum in two cases, though there was no subsequent fistula. Two patients were afflicted with incontinence after the operation, but Dr. Legueu, from his past experience, considers that this will only be temporary.

Dr. Albarran has performed the operation forty-two times, and has had but one death from cachexia in an old man seventy years old suffering from double pyelonephritis. He does not consider that the indications can as yet be discussed, a statement which seems rather strange coming from a man who has operated so many times. According to Legueu, the size of the prostate is of paramount importance, and would justify an operation when dysuria is followed by retention. Calculi are also a good indication, as they may be removed by the same incision.

Curious Incident at the Society of Biology.

On October 18 the president of the Society of Biology announced to his colleagues that a lady, who was not of his acquaintance, had handed him two envelopes, one of which was to remain closed until the month of June, 1903, the other was to be opened before the society. On doing so, 10,000 francs (about $2000) were found in it, and are destined to help publish the reports of the society. In writing of this, the editor of the *Presse Medicale* describes it as being very American.

Lucas-Championniere's Technic for Preparing Catgut.

At the Congress of Surgery, held in Paris last October, Dr. Lucas-Championnierè, one of the first to introduce into France Lord Lister's principles of antisepsis, described his method for preparing catgut. It consists in Lister's method of placing catgut in a 20 per cent. solution of carbolic acid in oil. The only variante consists in placing it afterward in essence of turpentine. When an operation is to be performed Dr. Championnierè places it in a 5 per cent. solution of carbolic acid. He always uses a large thread, as he considers that it is always readily absorbed.

Chloroform versus Ether.

Dr. Julliard of Geneva has reported 9289 cases of narcosis by ether without a single death, either during or after the operation. Asphyxia was overcome in three cases by artificial respiration. Bronchial pneumonia is due, according to this surgeon, to a lack of proper precautions, such as not covering the patient sufficiently and allowing him to get chilled, or else not removing the mucus which forms in the throat. Villar of Bordeaux has had 4000 cases of narcosis by ether without a single death, and Roux of Lausanne considers ether better than chloroform in narcosis. The A. C. E. mixture, which has been tried in England, Vienna and in Italy, has been employed also by Dr. Reynès of Marseilles. He has found it of benefit with old or weak patients, or when there were cardiac, renal, or broncho-pulmonary lesions, where the ether would be injurious for the lungs and chloroform might cause syncope. Chlorid of ethyl is being used more and more as a general anesthetic in some of the Paris hospitals, and the anesthesia produced will sometimes last as much as half an hour; 5 c.c. should be given every five minutes. After a period of anesthesia there is one of analgesia which may last as long as the period of anesthesia. When the operation is to last more than half an hour it is well to begin with chlorid of ethyl, and go on with chloroform or ether.

Sheets of Silver as a Dressing for Wounds.

Dr. Gauthier of Luxeuil described at the Congress of Surgery his use of silver threads and silver sheets in surgery. Instead of employing the ordinary silver thread, Dr. Gauthier uses tressed silver wire, made with threads only 0.08 cm. thick, and which, therefore, can cause no damage to the tissues. Sheets of silver, of extreme thinness, are indicated when wounds bleed easily, after skin-grafting, when there is eczema near a wound, and in all diseases of the skin, instead of the various plasters.

Suppuration of the Pancreas.

Dr. J. L. Faure, surgeon of the hospitals, described at one of the meetings of the congress two cases of suppuration of the pancreas which he had seen, and which have led him to think that this lesion is not so very infrequent. In one case a young

woman showed symptoms of a perforation of the stomach, and on being operated on she was found to have a large retrogastric collection of pus. The pancreas was gangrened, and a fistula, which persisted a long time, showed that the pancreas was the primary seat of the disorder. In the second case the patient, who had lost 50 kilos in weight, was supposed to be suffering from cancer of the stomach. It was found, however, that an enormous mass of adhesions had formed as a result of suppuration of the pancreas. Drainage was made and the patient is now quite cured.

Correspondence.

The Operative Treatment of Strabismus.

An answer to Dr. Geo. M. Gould's paper in THE JOURNAL *of the American Medical Association, November 1, page 1106.*

PITTSBURG, PA., Dec. 3, 1902.

To the Editor:—If in the following I shall attempt to refute some of Dr. Gould's arguments against the operative treatment of heterophoria and strabismus, I am fully aware of the difficulty of the task. With his overwhelming figures, the weight of his well-earned reputation, and the admirable spirit of sincerity which pervades every phase of his reasoning, Dr. Gould's position is formidable enough to intimidate any "deus minoris gentis."

However, I believe that in the seemingly impregnable wall with which the gallant defender of conservatism has surrounded himself, there are several weak spots; some of the fundamental stones are loosened already by the able efforts of others, and here and there I even find that the builder has altogether neglected to support his foundation with concrete material. In fact, he even furnishes us with the weapons to upset his structure. To speak less metaphorically, and to go right "in medias res," the anatomic relation of Bonnet's capsule to the tendons and its bearing on the conditions as created by tenotomy have been completely ignored in Dr. Gould's chain of evidence. To anyone familiar with the fact that Bonnet's capsule is reflected on the tendons where they pierce the capsule and becomes continuous with the fasciæ of the muscles (lateral invagination) the effect of severing the tendon must be self-evident: The muscle will exert a certain amount of traction on the capsule; if we now sever the connective tissue between the tendon and the capsule, a procedure which Dr. Gould sees fit to deride as "post-graduate," the muscle will glide back farther into the orbit. For illustration we assume that the internal rectus of the right eye has been severed. Abduction will immediately take place, caused chiefly by the action of the external rectus. The gap thus formed will be the result of two factors: tonicity of the rectus internus and abduction through the rectus externus. While I readily admit that this abduction is partly neutralized by the active effort of the patient to lessen the traction of the wound, I can not see how reinsertion at the former line of insertion can possibly take place, since there remains a gap which no amount of voluntary or involuntary compensation on the part of the other muscles will completely overcome.

This is one theoretical "scrap of evidence" according to which it is utterly impossible that the tendon should become reattached to its former line of insertion, provided, however, that we have severed it completely. All surgical analogy helps to strengthen this assertion. There is not one tendon in the human body which, severed and left alone, will reinsert at its former point. If restitution of the function of the muscle actually takes place it can not be due to any other agency than the one pointed out by Dr. Gould himself, namely, regrowth of tissue. But who will deny that in the latter case—filling of the gap through new tissue—an actual lengthening of the muscle has taken place?

The mere admittance of this possibility renders irrelevant the argument that a tendon will not grow on an unabraded, uninjured surface. However correct this assertion may be, it does not come into consideration in our case for the above reason that the gap formed by the operation will be bridged over by newly-formed connective tissue which finally will unite the two surfaces, and, by its interposition, will add to the total length of the muscle. If it happens occasionally that this bridge does not develop, it does not necessarily imply that no insertion whatever will take place. What Dr. Gould pronounces the invariable rule, to-wit, that the surface behind the stump is unabraded and uninjured, seems to me, on the contrary, a very rare exception. The technic of the operation makes such abrasions more than probable, and if there were in my mind any doubt left, my practical experience of about two score of repeated tenotomies would remove even the slightest shadow of such a doubt. The rule is that in repeated tenotomy we shall find the line of insertion moved back. So typical have I found this condition that in a second tenotomy on the same muscle I invariably make the conjunctival incision from 2 to 4 mm. farther back than in a first tenotomy.

Another equally good *modus restitutionis* is that in which filling of the gap through newly-formed tissue is combined with insertion behind the former line of attachment. In such cases we find a broad surface instead of a line of attachment, a condition which clearly indicates that the surface behind the stump was abraded during the first tenotomy. But leaving aside even these practical "scraps of evidence," there is another factor which has not been considered by Dr. Gould. Assuming that no reattachment has taken place at all (for instance, immediately after the operation), has the severed muscle lost all of its power over the eyeball? By no means. The traction on Bonnet's capsule still remains and will prevent the antagonist from exerting his full force. If this were not the case, how could we explain the formidable amount of adduction that remains after complete severance of an internus? Merely by the action of the auxiliary adductors? If so, why will the severing of the belly of the muscle produce such a marked decrease in adduction, or abduction, as the case may be?

So far, all of our arguments have been directed against the theory of reinsertion at the old place, together with the establishment of a *status quo antea*, on which theory Dr. Gould bases his assertion: "Hence, in a few months or a year all the old troubles return after needless surgical intervention."

For obvious reasons we shall not condemn all of Dr. Gould's conclusions because one of his premises was incorrect. Thus we perfectly agree with him as regards the one feature that tenotomy can do little or nothing toward removal of the primary causes of the large majority of strabismus cases. We shall be able to correct slight degrees of astigmatism by relieving some of the lateral pressure on the globe; we can remove part of the strain on the antagonist and thus enable the latter to respond more promptly to impulses; we bring the optic axis in a more favorable position for macular vision, where macular vision is still possible, but, unless conditions are especially favorable, *some* of the old troubles (not *all* of them) will return, not because the tendon will reinsert at the old line of attachment, but because the primary factors can not be eliminated in all cases.

All of these objections can not have any bearing on the important rôle which tenotomy, eventually combined with advancement, plays as a preparatory measure for the treatment of some of the above troubles. Take, for instance, all those cases of heterophoria and strabismus in which the primary factor is hypermetropia, with its excess of accommodative impulses, which implies at the same time an excess of convergence. An immense expenditure of nervous energy, time and money may be saved to the patient if we remove the deficit in abduction by a suitable operation on the hypertrophied internus. The correction of the refractive errors will be simplified, the time of the treatment shortened and the appearance of the patient permanently improved; in other words, surgical intervention will smooth the path for intelligent non-surgical treatment.

Nevertheless, Dr. Gould assures us that with the exception of one (!) case he never saw the results of an operation in heterophoria or strabismus of which he should be proud to say he did it! Considering the sincerity, enthusiasm and trustworthiness of the distinguished Philadelphia author, there remains nothing for us but to express our regret that he should be the victim of what I am inclined to take for an extraordinary coincidence. With Dr. Risley I offer as an ex-

planation for this strange phenomenon that the scores of successful operations that he must needs have performed himself never returned to his view, simply because they were cured or perfectly satisfied with the results obtained.

Having thus established the fallacy of some of Dr. Gould's premises, I proceed to examine his arguments in favor of non-operative treatment. In this respect, it seems to me, Dr. Gould has committed the error of "reckoning without his host." While this would not necessarily imply the scientific untenability of his position, it will erect an unsurmountable barrier to the indiscriminate acceptance of his therapeutic suggestions. "Fiat principium, pereat mundus," is a very dangerous maxim. A therapeutic measure, be it ever so correct, must be feasible before it can be universally adopted. Applied to our case, we must always bear in mind that we have often to contend with factors which are absolutely beyond our control. Of these factors I mention here the intellectual standard of the vast majority of our patients, their ages, their individual wishes, the time required and inconvenience caused by prolonged treatment, and last, but not least, the financial circumstances of the average patient. Once more I repeat, that all these objections are not directed against the correctness of the assertion that the non-surgical treatment of strabismus is the more accurate, scientific and (occasionally) the more harmless mode of therapeusis, but against its practical feasibility. We must reckon with circumstances as they are and not as they might be, which does not, at the same time, exclude our duty to work toward a state of conditions, as they should, or will be, in the far, far-away future.

Until the arrival of that millenium state, when the public will realize the necessity of having their babies' eyes examined by the expert; until the latter, including those who had the misfortune of an European education, with all its "ophthalmologic error and therapeutic sin," will be able to use retinoscopy to such a degree of accuracy that they may determine the refractive errors of the fetus in utero; until the dawning of that Bellamic era of prosperity which will enable us to engage a couple of special nurses for our little tots—not until then will the conservative treatment of strabismus become uniformly adopted.

The sovereign indifference which Dr. Gould exhibits with reference to the cosmetic possibilities of tenotomy is surprising, to say the least. It has been my experience, which I believe will be verified by the majority of my esteemed confrères, that 95 out of every 100 patients who consulted me for correction of an existing squint, did so in the expectation of having their unsightly deformity removed, and not for the relief of asthenopia. From the standpoint of the average patient the importance of correction of his refractive errors dwindles into insignificance as compared with that of his deformity. As a matter of fact, can we hold him responsible for this indifference to his ametropia or astigmatism, if he suffers no inconvenience whatever from the latter defects, if time and again we meet with patients who had been unconscious of their ametropia up to the very day that they consulted us for the purpose of having their eyes "straightened"? Besides, Dr. Gould's allusion to the *laisser aller* policy is not very happily illustrated by the example of "the leg that we do not strap out of the way"; a man may see with one eye, and see pretty well, but I have yet to see the first man who walked on one leg.

In the introductory lines of this paper I have taken the liberty of pointing to the fact that Dr. Gould has furnished us with the tools for upsetting his structure. "Every good oculist," he says, "has hundreds of patients who have no deformity and who have binocular vision—so long as their spectacles are in place. Raise the lenses and instantly there is strabismus! That is a demonstration convincing to everyone." Indeed it is! A more striking illustration could not have been found in the whole material of evidence against the failures of conservatism. Just imagine the happiness naturally arising from the consciousness that the mere raising of the lenses instantly restores the strabismus! The happiness of such a patient can only be surpassed by that of another, to whom we have just brought the glad tidings that it will probably take ten years to cure his strabismus.

In the foregoing lines we believe to have amply demonstrated to what fallacies the rigid adherence to any one system may lead. It has led one of America's foremost oculists to denounce surgery as the "despair of medicine"! A statement like the above, coming from such an authoritative source, involves an imminent danger to both the profession and the public. It will be taken up by every quack in the country and serve as a ready reference in their pompous advertisements, to cure "crossed eyes, cataracts, films and scums" without the use of the knife.

It is not within the scope of this paper, nor within the ability of its writer, to point out all the tortuosities, grades and obstacles in the path which alone can, will and must lead to salvation. I will, therefore, restrict myself to the summary statement that the solution of the problem lies, in my opinion, in the happy blending of conservatism with radicalism. The promiscuous adoption of the one is as dangerous as the wholesale condemnation of the other.

In conclusion, I deem it my duty to express surprise at the low opinion that Dr. Gould seems to entertain with regard to European oculists. The statement that "there is probably not an 'ophthalmic surgeon' in all Europe who can use this method [retinoscopy] with accuracy"—not to dwell on the difficulty of furnishing the proof for such an assertion—bears every mark of improbability in consideration that this method is practiced by several of Europe's best oculists, almost in total preference to any other method of refracting children.

Another criticism of the same order is equally unjustified. Quoting a paragraph in Dr. Fuchs' text-book, Dr. Gould says: "In anisometropia we give the same glasses for both eyes, or correct only one eye and place a plane glass before the other." Commenting on this paragraph, Dr. Gould remarks: "I set this sentence out in capital letters as displaying as much ophthalmologic error and therapeutic sin as could easily be gathered into so many words."

In the first place, the quotation is not correct. The text before me (page 659, translation by Dr. Duane, 1896), reads: "We *therefore* prefer in anisometropia either to give the same glasses for both eyes, or to correct only one eye and place a plane glass before the other." In connection with the preceding and following sentences and duly considering the word "therefore," the sentence gains an altogether different aspect. After stating that the obvious course would seem to be to correct the anisometropia by ordering different glasses for the two eyes, Dr. Fuchs remarks that this measure proves impracticable in *most* cases; mentions the symptoms arising from anisometropia of a high degree, gives his explanation, which I believe to be theoretically and practically irreproachable, and finally, by inserting the above quoted sentence, "we therefore prefer," etc., calls our attention to the method to be adopted for those cases in which we have failed to give satisfaction by prescription of different glasses, referring chiefly to glasses with a different index (+ or —), as can be readily seen from the connection with another preceding sentence.

A. S. SIGMANN, M.D.

COMMENT BY DR. GOULD.

A more careful reading of my paper would have resulted in an avoidance of a number of errors in Dr. Sigmann's courteous criticism. I will not take up valuable space to detail these, except in one illustrative instance: In the body of my article it is expressly stated that the excerpt wherein occurred the quotation from Fuchs was from an article written ten years ago. I do not garble quotations, and, when written, the quotation was verbatim from the last edition. That four years later Fuchs had progressed to the position illustrated by Dr. Sigmann's quotation is encouraging. What will the progress be in the next four years?

As to the misuse of truth by quacks, that does not concern me. To refuse to accept and state truth because of such dangers is to accept the ethics of the quack. As to European oculists, they are the peers of any as regards pathology and inflammatory and surgical diseases. But proper refraction prevents both classes of diseases. Of proper refraction European oculists know almost absolutely nothing. In this their work is the most absurd. A patient of mine consulted the

most famous "ophthalmic surgeon" of Germany last summer, and for an enormous astigmatism (of which the surgeon was utterly incurious) he ordered massage of the eyes by the patient. For blepharitis, due to refractive error, another famous man told another patient to squeeze out the secretion of the Meibomian glands with her fingers. A great French oculist ordered simple isometropic spherical lenses for astigmatic anisometropia, and expressed indignant surprise at the idea that he, the oculist, should have kept any record of the lenses he had ordered. I could enumerate many such laughable instances. But such things are common enough in America also, and to gibe at the refraction of the *fetus in utero* does not make them less common.

It is true that extremes are dangerous and that the middle-of-the-road is usually the safest and truest. Not always, however! A compromise, if for the sake of compromise, may be a worse error than either extreme. The time is not far past when one who should have proposed to cure strabismus (and surely heterophoria!) by any other method than operation would have been looked on as crazy.

GEORGE M. GOULD, M.D.

Midshipman Aikin and Vivisection.

PHILADELPHIA, Dec. 5, 1902.

HON. JACOB H. GALLINGER,
Chairman of the Senate Committee on the District of Columbia, Washington, D. C.

My Dear Sir: As you have repeatedly introduced bills into the Senate for the purpose nominally of regulating experiments on animals in the District of Columbia, which bills, however, if they had become laws, would in fact have prohibited many, if not all of them, I deem it my duty to call your attention to the case of Midshipman Aikin of the United States Naval Academy, who was recently injured in a football game. My reason for doing so is to show you by a single concrete example that knowledge gained by animal experimentation is an immense boon to humanity and that, therefore, such experiments should be heartily encouraged.

The facts of Mr. Aikin's case are as follows: When I first saw him, three days after the accident, I found that he had been unconscious for a half hour after the accident and ever since then had complained bitterly of headache, which he located always in the forehead. Mentally he was very dull, though not comatose. His pulse was slowed down to 52 instead of being 72, the normal. Soon after the accident he began to develop convulsions, first in the right leg, afterward in the right arm also, the right arm being finally the chief seat of the convulsions. When they were very severe they involved the left side also. The face was never involved. In six hours and a half after I first saw him he had 24 of these attacks, all limited to the right arm. They were not attended by any loss of consciousness. They exhausted him very greatly, especially when they were excessively severe. Several times it was necessary to give him chloroform.

There was no fracture of the skull. The only physical evidence of any injury was a very slight bruise at the outer end of the left eyebrow.

Had I seen this case before 1885 I would have been unable to explain why the spasms were chiefly manifested in the right arm, and from the evidence of the slow pulse, the headache, the stupor, the bruise in the left temple, etc., I would have been justified in inferring that probably the front part of the brain was injured at the site of the bruise. Had I opened his skull at that point I would have found a perfectly normal brain and have missed the clot. The young man, therefore, would have died, whether his skull had been opened or not.

In 1902 observe the difference. As a result of the knowledge derived from experiments on animals which have located precisely the center for motion of the right arm on the left side of the brain near the top and a little in front of a vertical line drawn through the ear, and disregarding entirely the site of the headache and the bruise, I reached the conclusion that there had been a rupture of a blood vessel within the head, which had poured out a quantity of blood, and that the situation of the clot should correspond to the "arm center." The location of this arm center was far away (about three inches) from the location of the bruise, and its position was fixed absolutely as a result of experiments on animals, confirmed later by many operations on human beings and also by postmortems.

As soon as the skull was opened at this point the clot was found, its thickest point being exactly over the arm center and nine tablespoonfuls of blood were removed, with the result that the patient's life has been saved. The blood had first been poured out over the "leg center," which is located a little higher up than that for the arm. This explained the early spasms in the right leg. The clot did not extend, however, further down than the arm center. This explained why the face was never convulsed, for the "face center" lies just below that for the arm.

I think if you were to ask the parents of this young man how many animals they would be willing to have sacrificed in order that their son might have his life saved, there would be no doubt of the answer. Indeed, had it been your own son, I can not doubt the answer. But this is only one of hundreds of cases in which a similar exact localization has been made by many surgeons, both in Europe and America. Yet, by a curious coincidence, in the very same issue of a Baltimore newspaper containing a reporter's account of the successful operation on Midshipman Aikin there is a letter signed by an active antivivisectionist agitator, which, among other misstatements and misrepresentations usually found in such publications, asserts that "brain surgery is disregarded."

If the laws which you and your friends advocate were in force, the conditions for scientific investigation in medicine in this country would be quite as deplorable as those in England. For example, when Lord Lister, who has revolutionized modern surgery, largely as a result of such experiments, wished to discover possibly some still better way of operating by further experiments, he was obliged to go to Toulouse to carry them out, as the vexatious restrictions of the law in England practically made it impossible for him to continue there these pre-eminently humane experiments.

Again, when Sir T. Lauder Brunton in London started a series of experiments on animals to discover an antidote for the cobra and other snake poisons of India, where every year 20,000 human lives are sacrificed by snake bites, these beneficent researches were stopped by the stringent British laws to protect animals. Meanwhile half a million of human beings have hopelessly perished.

Who, I may ask, is the more humane; he who, doubtless with the best and sincerest motives of love for dumb beasts, would prohibit experiments on animals and thereby prevent the acquisition of such knowledge and so compel surgeons to stand with folded arms and see innumerable lives thus needlessly sacrificed; or he who, by properly instituted experiments, would discover such new truths and apply them to the service of humanity?

The antivivisectionists have frequently denied that surgeons have learned anything from such experiments. I presume that I may be considered a competent witness as to the source, at least, of my own knowledge, and I state with the greatest positiveness that without the knowledge derived from experiments on animals which have demonstrated the facts of cerebral localization, I should never have been able to locate the clot in Mr. Aikin's head and to remove it, nor would I have been able in the last fifteen years to locate numerous tumors and other brain troubles and relieve many of them. What is true of myself is equally true of other surgeons.

In view, therefore, of the evident and positive benefit of such experiments, I trust that you will be willing to desist from further efforts at such repressive and, as I regard it, most inhumane and cruel legislation.

As this matter is of vital importance to the well-being of the entire community, I shall take the liberty of giving this letter to the press as soon as you have received it.

Yours very respectively, W. W. KEEN,
Professor of Surgery, Jefferson Medical College.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WHAT STATES ACKNOWLEDGE DIPLOMAS?

CHICAGO, Nov. 28, 1902.

To the Editor:—Kindly inform me through THE JOURNAL what states acknowledge college diplomas or Illinois licenses.

R. S. BENTLEY.

ANS.—The following states accept diplomas from a recognized college as a qualification for license to practice: Arkansas, Colorado, Kentucky, Michigan, Nebraska, Nevada, New Mexico, South Dakota and Wyoming. It is optional with the Board in Kansas. In Colorado those not holding recognized diplomas are granted licenses after passing an examination. An Illinois license is possibly recognized in Wisconsin and Indiana, as well as in Michigan, but we have not received the latest information in regard to the matter.

TECHNIC OF TONGUE TRACTION.

GOSHEN, IND., Nov. 27, 1902.

To the Editor:—Please give me, through your columns, the technic of Laborde's method of resuscitating the drowned; also state what is the important factor in the method as it is practiced that causes a return of the voluntary respirations in the patient. How many times to the minute should these rhythmic tractions of the tongue be practiced? B. T. WILLIAMS.

ANS.—Laborde's method of resuscitating the drowned consists in rhythmic tractions on the tongue at the rate of the normal respiration or a little slower. The theory of its action is that it is a reflex one. The tongue should be drawn upward and not over the lower jaw.

HAWAIIAN PRACTICE RULES.

MINNESOTA, Dec. 1, 1902.

To the Editor:—What is required to obtain a license to practice medicine in the Sandwich Islands? To whom would one apply for such license? G. F. P.

ANS.—To practice medicine in Hawaii a license is required, given after examination by the Board of Health. Dr. J. S. B. Pratt, Honolulu, is the executive officer of the board.

State Boards of Registration.

South Carolina Litigation.—Some time ago the South Carolina Legislature exempted four-year course graduates of medical colleges in that state from examination. A class that had taken a course of three years applied for the free licenses, which were refused. One member contested the matter, and the Supreme Court has just decided in favor of the board. The class will, therefore, have to be examined.

Kansas Board Can Revoke Licenses.—An important decision has been rendered for the Board of Registration of Kansas, affirming their power to revoke the licenses of practitioners whom they consider unfit to practice. One Meffert of Emporia was accused of gross immorality, and the board revoked his license. He applied for an injunction and it was refused. The ruling states that the right to practice medicine has been decided not to be a right of citizenship, and the judge declares that the board has the right to refuse that privilege to anyone until he has proven his fitness.

Michigan Report.—The Michigan State Board of Registration in Medicine reports, by Dr. B. D. Harison, secretary, Sault Ste. Marie, the examination held at Lansing, October 14-17: Number of subjects examined in, 19; questions, 190; percentage required, 75; written examination; number examined, 14; passed, 8; failed, 6.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
		PASSED.		
1	R.	University of Nebraska.....	1895	79.63
2	R.	Med. Coll., State of South Carolina.	1884	89.00
3	R.	McGill University, Montreal.....	1902	86.73
4	R.	Toronto University	1902	82.63
5	R.	Baltimore Medical College.....	1902	82.21
7	R.	Toledo Medical College, Ohio.....	1901	79.52
		FAILED.		
10	R.	Independent M. C. (Diploma Mill).	1896	21.42
11	E.	Independent M. C. (Diploma Mill).	1899	46.73
14	R.	Jenner Med. Coll., Chicago (student)		72.73

NOTE: Nos. 6 and 8 were undergraduates who passed with grades of 89.89 and 76.68 respectively. Nos. 9 to 14 were undergraduates who failed.

Book Notices.

THE PRACTICE OF SURGERY. A Treatise on Surgery for the Use of Practitioners and Students. By Henry R. Wharton, M.D., Clinical Professor of Surgery, Woman's Medical College of Pennsylvania, and B. Farquhar Curtis, M.D., Professor of Clinical Surgery and Adjunct Professor of the Principles of Surgery in the University and Bellevue Medical College of New York. Profusely Illustrated. Third Edition. Cloth. Pp. 1241. Price, $6.50. Philadelphia and London: J. B. Lippincott Co. 1902.

The articles in this edition have been fully revised and a large amount of new matter introduced. The editors have condensed the facts in such a way as to bring as much as possible within the compass of the volume. It seems to us to meet the needs of a text-book fairly well. The authors have signed their separate articles, but endorse the practical conclusions throughout the work so that we notice no serious defect in the work, such as often happens in composite works from overlapping of subjects or difference of individual views. The illustrations are very good.

DEATH AND SUDDEN DEATH. By P. Brouardel, Professor of Medical Jurisprudence, Dean of the Faculty of Medicine, Paris, and F. Lucas Benham, M.D., B.S. (Lond.), M.D. (Adelaide), Member of the Royal College of Physicians of London. Second Edition. Cloth. Pp. 336. Price, $3.00. New York: Wm. Wood & Co. 1902.

The translator says that in preparing the former edition he had felt with some regret that the treatise was too brief, and that he has in this edition met this difficulty by numerous additions enclosed by brackets. These seem to us to add materially to the value of the work. For a book of reference on the questions, medicolegal and otherwise, relative to sudden death, it is an excellent one; in fact, we know of no other in our language which fills its place within its compass.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. Skin and Venereal Diseases, Nervous and Mental Diseases. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. September, 1902. Cloth. Pp. 245. Price, $1.25. Chicago: The Year-Book Publishers.

This tenth volume of the series gives the principal advances made in these two branches of medicine during the year, and like the other handbooks of the series, will be found very useful to the general practitioner.

Marriages.

S. S. MEYERS, M.D., Centerville, Kan., November 26.

WALTER WALDEN, M.D., to Miss Albertine Wilhelm, both of Chicago, December 3.

CHARLES REED, M.D., Chicago, to Miss Ethelyn Eaton of Beloit, Wis., December 2.

WILLIAM T. SHIPP, M.D., to Mrs. Carrie B. Ward, both of Coffeyville, Kan., November 24.

THOMAS R. BROWN, M.D., to Miss Jeanne McComb Albert, both of Baltimore, November 27.

CHARLES T. GRAHAM-ROGERS, M.D., to Miss Mary C. Church, both of New York, November 26.

HOWARD TICKLE, M.D., to Miss Virginia Jarrett, both of Charleston, W. Va., November 26.

GEORGE W. MAY, M.D., to Miss Isabelle Mitchell, both of Willimantic, Conn., November 28.

C. CHURCHILL CARMALT, M.D., New York City, to Miss Alice Kidd of Tivoli-on-Hudson, December 4.

HERMAN L. NIETERT, M.D., to Miss Katherine Ziegenhein, daughter of the ex-mayor of St. Louis.

CAMILLE COTE, M.D., Marlborough, Mass., to Miss Edna Whitcomb of Quincy, Ill., November 27.

ALPHA D. UPDEGRAFF, M.D., Anthony, Kan., to Miss Sadie Eaton of Kansas City, Kan., November 24.

SAMUEL G. STAPLES, M.D., Washington, D. C., to Miss Douglas Maryon of Biloxi, Miss., November 26.

LEWIS M. BUNNELL, M.D., Tecumseh, Mich., to Miss Charlotte Alice Trotter of Rochester, N. Y., November 25.

ALVIN L. LIGHT, M.D., Dayton, Ohio, to Miss Carlotta Thomas, National Military Home, Ohio, December 3.

RICHARD F. HARRELL, M.D., Ruston, La., to Mrs. Sarah Page McKee of Philadelphia, at Ruston, La., November 23.

JOHN ROGER HAYNES, M.D., East View, N. M., to Miss Juanita Armijo of Albuquerque, N. M., November 22.

ELAM R. WRIGHT, M.D., Alton, N. H., to Miss Anna Murray of Valley Falls, Kan., at Alton, N. H., November 27.

WILLIAM SIMS BOYD, M.D., Jersey City, N. J., to Miss Florence Augusta Evans of Orangeburg County, S. C., at Columbia, S. C., November 19.

Deaths.

Henry P. Fricker, M.D. Columbian University, Washington, D. C., 1860, for several years superintendent of the State School for the Blind, Columbus, Ohio, and surgeon of the Twentieth Ohio Infantry, U. S. V., in the Civil War, died at his home in Ashtabula, November 27, after an illness of several weeks, aged 66.

Gregor C. McGregor, M.D. New York University, 1850, who had practiced in Texas for half a century, and was one of the organizers of the Washington County Medical Association, and at one time its president, died at his residence in Waco, November 23, after an illness of several months, aged 78.

H. Melville Smith, M.D. College of Physicians and Surgeons, New York, 1871, for 18 years a practitioner of Jersey City, and president of the medical board of Christ Hospital, died at his home in South Orange, from nervous prostration, November 28, aged 55.

Mirza N. Benjamin, M.D. University of Vermont, Burlington, 1864, a native of Oroomiah, Persia, and one of the youngest surgeons in the Civil War, died at his home in Dunkirk, N. Y., after an illness of nearly five months, aged 59.

William H. Stayner, M.D. College of Medicine of the University of Illinois, Chicago, 1898, aged 42, committed suicide, December 3, by shooting himself in the head and then throwing himself in front of a rapidly-moving railway train.

Henry W. Ochsner, M.D. Johns Hopkins Medical School, Baltimore, 1902, a member of the medical staff of the Johns Hopkins Hospital, died at that institution from typhoid fever, November 25, after an illness of 18 days, aged 25.

Charles M. Lee, M.D. Geneva (N. Y.) Medical College, 1850, died at his home in Fulton, N. Y., November 28, after a short illness from pneumonia, aged 77. He had served as president of the Oswego County Medical Society.

Allan P. Ebbert, M.D. Starling Medical College, Columbus, 1889, died from pneumonia, after a short illness, November 28, at his residence in Atlanta, Ga., aged 39. He served as surgeon through the Spanish-American War.

Harry Luther Kiehl, M.D. Western Pennsylvania Medical College, Pittsburg, 1896, of Fayette City, Pa., died suddenly at his father's home near Bentleyville, Pa., November 29, from heart disease, aged 34.

Benjamin C. Toler, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1859, died at his home in Astoria, Ill., from cancer of the stomach, November 30, after an illness of five months, aged 74.

James Allen, M.D. Berkshire Medical College, Pittsfield, Mass., 1849, died at his home in Richford, N. Y., aged 75. He served in the Civil War as surgeon of the Eighty-ninth Infantry, N. Y. Volunteers.

Joseph Clark, M.D. London University (Guy's Hospital), England, 1847, who had practiced in Baltimore for 30 years, died at his home in that city, November 27, from Bright's disease, aged 78.

George F. Monahan, M.D. Maryland Medical College, Baltimore, 1900, of Woonsocket, R. I., died suddenly, November 23, at Saranac Lake, N. Y., where he had gone on account of ill-health, aged 27.

Norman Garibaldi Ross, M.D. Michigan College of Medicine and Surgery, Detroit, 1896, died from taking an accidental dose of strychnin, November 27, at his home in Detroit, aged 27.

William P. Clower, M.D. Pennsylvania Medical College, Philadelphia, 1855, for many years a resident of Moultrie, Ga., died at his home in Cairo, Ga., November 17, from paralysis.

David H. Montgomery, M.D. Pennsylvania Medical College, Philadelphia, 1852, died at his home in Mifflinville, Pa., November 28, from paralysis, after a short illness, aged 68.

Francis M. Phillips, M.D. Tulane University, New Orleans, of Lexington, Miss., 1892, was accidentally shot and killed, November 23, while hunting near Ruleville, Miss., aged 33.

William H. Ingram, M.D. Memphis (Tenn.) Hospital Medical College, 1897, died at his residence in Kenedy, Texas, November 24, after an illness of more than a year.

James D. Abels, M.D. Louisville (Ky.) Medical College, 1894, of Grant, I. T., died in Paris, Texas, November 20, after an illness of two months, from typhoid fever.

William A. Guild, M.D. Harvard Medical School, Boston, Mass., died at his home in Sanford, Fla., November 21, from paralysis, after a short illness, aged 75.

J. Landis Seitz, M.D. Jefferson Medical College, Philadelphia, 1882, died suddenly at his home in Harrisburg, Pa., November 28, from apoplexy, aged 46.

John M. Welsh, M.D. Cincinnati College of Medicine and Surgery, 1869, died at his home in Deersville, Ohio, from cancer, November 21, aged about 60.

Samuel Aughey Suloff, M.D. Rush Medical College, Chicago, 1882, of Patterson, Pa., died suddenly from heart disease, at Rockville, November 23, aged 45.

Adam E. Robson, M.D. Medical College of Ohio, Cincinnati, 1888, died suddenly from heart disease, November 27, at his home in Cincinnati, aged 40.

Frank R. Agur, M.D. Toledo (Ohio) Medical College, 1893, died at his residence in West Toledo, November 30, as the result of an overdose of cocain.

Curtis A. Wood, M.D. Dartmouth Medical College, Hanover, N. H., 1878, died at his home in Dublin, N. H., December 1, from diphtheria, aged 56.

Deaths Abroad.

Dr. L. Landois, professor of physiology at Griefswald. His "Manual of Physiology" has been translated into several languages, and his contributions to science include the discovery of the cortical, thermic center, and much research on transfusion, histology of the nerves, etc. He was born in 1837.

Dr. M. Wilde of the Institute of Hygiene at Munich, a member of the editorial staff of the *Muenchener Med. Woch.*—**Dr. L. Marvaud,** chief of the French military sanitary service. His property was bequeathed to establish a fund for the widows of Army surgeons in need.

Dr. F. Dornbluth, one of the leading authorities on hygiene in Germany, and indefatigable in its promotion, died at Frankfort-on-Main, aged 77. Among numerous works in this line were popular treatises on the hygiene of the home, of athletics, of the school, etc.

Association News.

New Orleans in May.

There has been expressed a fear that the climate of New Orleans in May is liable to be too warm for comfort. We are assured, however, that there need be no fear on this account, for May is one of the pleasantest months in the year there. Considering that the Association meeting will be held in the first week of May, it is not at all likely that the heat will be oppressive. Touching on this matter the current number of the *New Orleans Medical and Surgical Journal* says:

MAY IN NEW ORLEANS.

"The blushing spring bears witness to the tranquil season, when the iris flecks the fallow fields in tones of gray and brown and blue, and where the dogwood beckons in the swampland and clovers whiten roadsides with their fragrant bloom. The magnolia blossoms to the tune of twittering birds, while roses and the jasmines, fresias, columbine and the mellow orange flowers make the May time sweetest of the year.

"The balmy nights are redolent with odors of Nature's fruitful promise; too soon for broods of festive culex, or of gnat; while toothsome fish and fowl are plentiful.

"May is the month of New Orleans' months. When the sun shines with glory and with fended ray; when starlight seems brighter, because the nights are less marked by clouds; when the dew is early and the showers have grown less frequent in a cloudless sky.

"The days grow longer in the May time and twilight halts, slow to speed the passing day; from out the open windows float upon the willing air the sounds of home. This is the season.

And while the time or day is not of our choosing, we, of the medical guild, are glad to say to the members of the American Medical Association, brothers in the art, come in May!"

One-Half Rate Assured.

Dr. Thomas H. Stucky, chairman of the Committee on Transportation, notifies us that the Southeastern Passenger Association has given one fare for the round trip for the New Orleans meeting. That association will recommend to the other passenger associations that this rate be adopted. Since the passenger association covering the territory in which the meeting is to be held usually sets the rate for the whole country, there is no doubt that all the other passenger associations will adopt the recommendation of the Southeastern, and that we will have half rates from all over the country.

New Members.

New members for the month of November, 1902:

ALABAMA.

Sellers, Ira J., Birmingham.

CALIFORNIA.

Hashimoto, Shingo, San Francisco.
Coffey, W. B., San Francisco.
Banta, W. P., San Francisco.
Champion, Jos. Austin, Colton.
Hawkins, J. H., St. Helena.
Langdon, S. W. R., Stockton.
Allen, Lewis W., San Francisco.
Hawkins, S. J., San Francisco.
Pond, Henry May, Alameda.
Stratton, R. T., Oakland.
Owen, J. A., Red Bluff.
Watters, Peter Kemp, Watsonville.
Cheney, Wm. Fitch, San Francisco.

COLORADO.

Hess, Wm. L., Denver.
Cosby, O. W., Tabasco.
Schavoir, Frederick, Stamford.
Thorp, Rollin L., Denver.
Courtney, J. E., Denver.

CONNECTICUT.

Cooper, L. E., Ansonia.
Anderson, Arvid, New Britain.
Ramsey, Otto G., New Haven.

DELAWARE.

Briggs, H. W., Wilmington.
Forrest, G. W. K., Wilmington.
Wm. M. Ogle, Delaware City.

DISTRICT OF COLUMBIA.

Baier, Geo. K., Washington.

FLORIDA.

Blount, B. B., Punta Gorda.
Liell, Edw. N., Jacksonville.
Marsh, Chas. Franklin, Pensacola.
Skaggs, P. T., Miami.

GEORGIA.

Cox, Wm. James, Pennington.
Lewis, F. L., Camilla.
Harrison, E. S., Thomson.
Bryan, John A., Pendergrass.
Collier, T. J., Griffin.
Thomas, Dennis Lang, Eatonton.
Ainsworth, Harry, Thomasville.

IDAHO.

Dubois, J. K., Boise.
Hannberg, J. J., Oakley.
Higgs, A. A. ,Soldier.

ILLINOIS.

Bleuler, Ernest A., Carlinville.
Adams, A. R., Tennessee.
Haskell, Hiram A., Chicago.
Fowler, Edson B., Chicago.
Fox, John Sebastian, Chicago.
Merrill, Julia M., Chicago.
Barker, M. R., Chicago.
Roberts, Norman J., Waukegan.
Ray, D. S., Cuba.
Peterson, S. G., Rutland.
Oyler, H. S., Lincoln.
Bonar, B. L., Streator.
Sheetz, C. R., Freeport.
Bane, Samuel, Ellsworth.
Shaw, A. M., Ottawa.

INDIANA.

Roney, David C., Milan.

INDIAN TERRITORY.

Wear, John B., Poteau.

IOWA.

Pierce, W. F., Carson.
Boyd, C. E., Newton.
Scott, W. A., Maquoketa.
Smith, Jessie V., Winterset.
Shively, J. D., Des Moines.
Breene, Frank Thomas, Iowa City.
Victor, Albert Lycurgus, Kalo.
Birney, C. E., Estherville.
Cole, J. H., Council Bluffs.
Bradley, Wm. E., Estherville.
Sandy, Aural A., Harvey.
Johnson, George Monroe, Maquoketa.
Staples, Geo. Allen, Dubuque.
Priestley, Crayke, Des Moines.
Turner, M. L., Des Moines.
Van Marel, G. P., Pella.
Bufkin, E. W., Runnells.

KANSAS.

Preston, Jas. F., Effingham.
McDonald, Frank A., Aurora.
Cullen, Geo., Topeka.
Rooney, Arthur P., Horton.
Daniels, E. N., Beloit.
Helwig, Orville L., Garden City.
Nason, Zachariah, Kansas City.
Lindsay, W. S., Topeka.

KENTUCKY.

Blackburn, John H., Bowling Green.
Shirley, I. A., Winchester.

LOUISIANA.

Gremillion, Cyriaque Joseph, Alexandria.
Lea, Jesse W., Jackson.
Lewis, Geo. Wm., New Orleans.
Roussel, Joseph Numa, New Orleans.
Ayo, S. A., Thibodaux.

MARYLAND.

Cromwell, M. J., Lake Roland.
Warfield, R. B., Baltimore.
Thomas, H. M., Baltimore.
Schutz, E. A., Baltimore.
Humer, Guy L., Baltimore.
Hurd, H. M., Baltimore.
Williams, J. W., Baltimore.
Wilson, Gordon, Baltimore.
Peterman, H. E., Baltimore.
Brooke, Chas. H., Brooklyn.
Gorter, N. R., Baltimore.
Lockwood, W. F., Baltimore.
Pleasants, J. Hall, Baltimore.
Wilson, J. J., Cumberland.
Dunton, W. R., Jr., Towson.
Scott, J. McP., Hagerstown.

MASSACHUSETTS.

Mallory, Frank Burr, Boston.
Dixon, Lewis Seaver, Boston.
Whiteside, Geo. S., Boston.
Daniels, Edwin A., Boston.
Harrington, Chas., Boston.
Clark, J. Payson, Boston.
Emerson, Francis P., Boston.
Hewes, Henry F., Boston.
Burrage, Walter L., Boston.
Broughton, Henry W., Boston.
Brooks, Wm. A., Jr., Boston.
Balch, Franklin Greene, Boston.
Palmer, Sarah Ellen, Boston.
Vickery, Herman Frank, Boston.
Gay, Geo. W., Chestnut Hill.
Hall, H. Porter, Leominster.
Dennett, Chas. A., Arlington.
Charles, Orlando W., Bryantville.
Brown, Alphonso B., Newburyport.
Hoitt, Eugene G., Marlboro.
Hastings, Robt. W., Brookline.
Nichols, John T. G., Cambridge.
Cobb, Oliver W., Easthampton.
McAllister, Frederick D., Lawrence.
Fowler-Noble, Anngenette, Westfield.
Sweet, Frederick B., Springfield.
Stevens, Andrew J., Malden.
Sherman, Frank Morton, West Newton.
Currier, W. Eugene, Leominster.
Atwood, Chas. F., Hyde Park.
Brown, Henry R., Leominster.
Cleaves, E. E., Rockport.

MICHIGAN.

Burland, Samuel C., Ludington.
Curtiss, Loren, Paw Paw.
Alton, R. W., Portland.
Barnum, W. H., Fremont.
Harris, Dudley R., West Branch.
Hoffman, John W., Detroit.
Coughlin, John W., Bay City.
Law, Oliver H., Detroit.
Morley, Wm. Horace, Ann Arbor.
Chester, John L., Emmett.
Kellogg, J. H., Saginaw.
Purdon, James, Edmore.
Edwards, Presco I., Jackson.
Atkinson, W. T., Mariette.
Lombard, Warren Plimpton, Ann Arbor.
Smith, Theodore H., Mt. Clemens.

MINNESOTA.

Vernon, H. S., Lewiston.

MISSISSIPPI.

Crisler, Julius, Jackson.
Ross, Theophilus Erskine, Hattiesburg.
Batson, Melbourne Lafayette, Leakesville.
Buchanan, Jas. M., Meridian.
Bailey, O. L., Ocean Springs.

MISSOURI.

Chamberliss, E. L., Kansas City.
Bansbach, Joseph J., Savannah.
Houston, E., Savannah.
Fulkerson, J. J., Lexington.
Stephens, Philip, California.
McComas, Arthur R., Sturgeon.
Coffey, Grundy C., Platte City.
McKee, Joseph W., Kansas City.
Barger, James N., Darlington.
Herndon, Albert S., Camden Point.
Pile, Oscar F., Memphis.

MONTANA.

Hunter, Joseph C., Great Falls.

NEBRASKA.

Coulter, F. E., Omaha.
Armstrong, Geo. C., Cambridge.
Cherry, A. B., Winside.
Plumb, Perry E., Gothenburg.

NEW HAMPSHIRE.

Abbott, Clifton S., Laconia.

NEW JERSEY.

Schoening, Gustav A., Trenton.
Terriberry, G. N., Paterson.
Brown, Adolph G., Redbank.
McEwen, Floy, Newark.
Surnamer, Isaac, Paterson.
Thompson, Chas. H., Belmar.
Walsheid, Arthur J., Union.
Vreeland, Hamilton, Jersey City.

NEW YORK.

McDonald, Alexander E., New York City.
Southworth, Thomas Shepard, New York City.
Shaffer, Newton Melman, New York City.
Tierney, John T., New York City.
Baruch, Emanuel, New York City.
Ward, Freeman F., New York City.
Boyer, Arthur A., New York City.
Bogue, Edward A., New York City.
Collins, Joseph, New York City.
Evans, Samuel M., New York City.
Holmes, Edwin, New York City.
Rakestrand, Chauncey, New York City.
Tyson, Henry H., New York City.
Frank, John, New York City.
Kohn, Albert, New York City.
Jewett, May B., New York City.
Staniland, Geo. S., New York City.
Friedman, Samuel, New York City.
Oberndorfer, I. Pierce, New York City.
Ewald, L. Anton, New York City.
Grosse, Friedrich, New York City.
Greene, Mary T., Castile.
Hillis, Christopher J., Griffin Corners.
Montgomery, J. J., Luzerne.
Eggleston, H. Wardner, Binghamton.
Saladino, Domenic, Manhattan.
Skerry, Harry W., Brooklyn.
Sharpe, Frank Mansfield, Brooklyn.
Rossman, Clark G., Hudson.
Deady, Howard Perry, Liberty.
Getty, Andrew H., Athens.
Watt, James, Brooklyn.
Thornton, Wm. Irving, Buffalo.
Hodge, Wm. H., Niagara Falls.

NORTH DAKOTA.

Barton, Ira, Sanborn.

OHIO.

Hart, Chas. S., Marietta.
Gotwald, D. J., Springfield.
Biggar, Hamilton F., Jr., Cleveland.

OKLAHOMA.

Rector, Newton, Hennessey.

OREGON.

Tape, G. W., Hot Lake

PENNSYLVANIA.

Montgomery, Jas. P., Buckhorn.
Anderson, J. Hartley, Pittsburg.
Snodgrass, Henry Lane, Buffalo.
Morrow, Geo. S., Dayton.
Levengood, B. B., Bellwood.
Morrison, Robert, Oakdale.
Deemar, John Thos., Manorville.
Russell, J. M., Pittsburg.
Fitzgerald, J. M., Clarion.
Gile, Ben C., Wehrum.
Braucht, H. S., Spring Mills.
Baker, Louis G., Parker's Landing.
Davis, John M., Darlington.

SOUTH CAROLINA.

Quattlebaum, Theo. A., Batesburg.

SOUTH DAKOTA.

Clark, Wm. E., Frederick.

TENNESSEE.

Glasgow, Wm. H., Cumberland City.

TEXAS.

Hofstetter, Geo. A., Corsicana.
Stevens, B. F., El Paso.
Vials, W. N., El Paso.
Schuster, M. P., El Paso.
Stevenson, Herbert E., El Paso.
LeGrand, Cecil Warren, Hempstead.

VIRGINIA.

Bruin, M. R., Strasburg.

WEST VIRGINIA.

Jones, Anderson Porter, Hebron.
Jarvis, Louise, Clarksburg.
Depue, Homer B., Parkersburg.

WISCONSIN.

Becker, W. F., Milwaukee.

Medical Organization.

The Ohio Council.

The council of the Ohio State Medical Society met at the Chittenden Hotel, Columbus, November 30. All the members but one were present, and a very admirable spirit of enthusiasm in the work of organizing the profession was displayed. The state was divided up into provisional councilor districts, and a certain number of counties assigned to each councilor. Views as to the best methods of carrying on the work of organization were discussed, and plans of procedure were mapped out. The council organized by the election of Dr. Brooks F. Beebe of Cincinnati as chairman, and Dr. Thomas Charles Martin of Cleveland as secretary. The following is a list of

the members of the council, with the district which each represents:

FIRST DISTRICT—Counties: Hamilton, Clermont, Brown, Adams, Butler, Warren, Highland, Clinton, Fayette. Councilor, Brooks F. Beebe, Cincinnati.

SECOND DISTRICT—Counties: Preble, Montgomery, Greene, Darke, Miami, Clark, Mercer, Shelby, Champaign. Councilor: Horace Bonner, Dayton.

THIRD DISTRICT—Counties: Van Wert, Auglaize, Logan, Allen, Hardin, Marion, Wyandot, Hancock, Seneca. Councilor, Frank D. Bain, Kenton.

FOURTH DISTRICT—Counties: Paulding, Putnam, Defiance, Henry, Wood, Sandusky, Williams, Fulton, Lucas, Ottawa. Councilor, Julius H. Jacobson, Toledo.

FIFTH DISTRICT—Counties: Erie, Huron, Medina, Cuyahoga, Lorain, Lake, Geauga, Ashtabula, Trumbull. Councilor, Thomas Charles Martin, Cleveland.

SIXTH DISTRICT—Counties: Summit, Portage, Mahoning, Stark, Wayne, Holmes, Ashland, Richland. Councilor, Harry H. Jacobs, Akron.

SEVENTH DISTRICT—Counties: Columbiana, Carroll, Jefferson, Harrison, Belmont, Monroe, Tuscarawas, Coshocton. Councilor, J. C. M. Floyd, Steubenville.

EIGHTH DISTRICT—Counties: Guernsey, Noble, Washington, Muskingum, Morgan, Athens, Licking, Perry. Councilor: Edmund C. Brush, Zanesville.

NINTH DISTRICT—Counties: Hocking, Vinton, Meigs, Pike, Jackson, Gallia, Scioto, Lawrence. Councilor, John E. Sylvester, Wellston.

TENTH DISTRICT—Counties: Crawford, Morrow, Knox, Delaware, Madison, Franklin, Union, Pickaway, Fairfield, Ross. Councilor, T. W. Rankin, Columbus.

There are 88 counties in the state, and at present 45 of them have county medical societies. The council feels sure, however, that by the next annual meeting of the Association in May, 1903, there will be a medical society in every county in the state. In view of the willingness shown by every member of the council, it is not too much to expect that this hope will be quite fulfilled. The work of organizing the medical profession of Ohio is in excellent hands.

The Indianapolis Medical Society, the Medical Society of Marion County (Ind.).

The Marion County Medical Society has changed its name to that given above. It will be informally known as the Indianapolis Medical Society.

Charlevoix County (Mich.) Medical Society.

This society was organized at Charlevoix, November 21, with Dr. L. M. Kanagy, Charlevoix, president; Dr. Harmon E. Boice, Boyne, vice-president; Dr. Guy L. Laraway, Boyne Falls, secretary, and Dr. Harry E. Shaver, Boyne, treasurer.

Ohio State Medical Society.

The board of councilors of the Ohio State Medical Society, at a meeting held in Columbus, November 30, empowered the secretary, Dr. P. Max Foshay, Cleveland, to divide the state into districts, for the better organization of the society in all the counties. Each member of the board will have charge of the work in one district. There are now forty-three counties which are not organized.

Carroll County (Tenn.) Medical Society.

The physicians of Carroll County met at Huntingdon, November 20, and reorganized the county society as an integral part of the Medical Society of the State of Tennessee. The following officers were elected: Dr. Joseph W. McCall, Huntingdon, president; Drs. James B. Cox, Huntingdon, and Charles T. Love, McLemoresville, vice-presidents; Dr. William N. Enochs, Huntingdon, secretary, and Dr. Addison McN. Grizzard, Buena Vista, treasurer. Dr. William M. Wright was elected to the House of Delegates of the State Society, with T. C. Love, Hollow Rock, as alternate.

Monroe County (Pa.) Medical Society.

This society, whose object is stated to be "the organization of the medical profession of the county of Monroe by connection with the State Medical Society and the American Medical Association; the promotion of knowledge on subjects connected with the healing art; the advancement of the character and prosperity of those interested in the practice of medicine and the employment of means calculated to render the profession most useful to the public and subservient to the present interests of humanity," was organized at Stroudsburg, November 24. Dr. Nathaniel C. Miller, Stroudsburg, was elected president; Dr. John C. Henry, East Stroudsburg, vice-president; Dr. William E. Gregory, Stroudsburg, secretary, and Dr. Hagerman, Stroudsburg, treasurer.

Van Buren County (Mich.) Medical Society.

On November 7 a meeting of the physicians of Van Buren County was held to organize this society. It was attended by delegates from Decatur, South Haven, Bangor, Mattawan and Lawrence, Drs. George W. Lowry, Hastings, and William H. Haughey, Battle Creek, being present to assist in perfecting the organization as planned by the American Medical Association. Dr. George D. Carnes, South Haven, was elected president; Dr. James Murphy, Bangor, vice-president, and Dr. Norris A. Williams, Bangor, secretary and treasurer.

Societies.

COMING MEETING.

Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29 and 30, 1902.

Burlington and Chittenden County (Vt.) Clinical Society.—At the annual meeting of this society in Burlington, November 28, Dr. Harris R. Watkins was elected president; Dr. Bingham H. Stone, vice-president, and Dr. Clarence H. Beecher, secretary and treasurer, all of Burlington.

Iowa County (Iowa) Medical Society.—This society held its annual meeting in Williamsburg, November 21. Dr. William C. Schultze, Marengo, was elected president; Dr. Arnold C. Moon, Williamsburg, vice-president; Dr. Edgar B. Henderson, Marengo, secretary, and Dr. William F. Moershel, Homestead, treasurer.

Keokuk County (Iowa) Medical Society.—This society held its annual meeting at Sigourney, November 25. Dr. William Pfannebecker, Sigourney, was elected president; Dr. Robert H. Payne, Richland, vice-president; Dr. Charles S. Cilley, What Cheer, secretary, and Dr. Leonard B. Oliver, Sigourney, treasurer.

William Pierson Medical Library Association of the Oranges (N. J.)—At the annual meeting of this association, November 28, the following officers were elected: Dr. Thomas W. Harvey, Orange, president; Drs. Richard C. Newton, Montclair, and Joseph C. Young, Newark, vice-presidents; Dr. Richard D. Freeman, South Orange, secretary; Dr. J. Hammond Bradshaw, treasurer, and Dr. Henry A. Pulsford, South Orange, librarian.

Redlands, Riverside, San Bernardino and Pomona Valley (Cal.) Medical Societies.—These societies held a union meeting at Loma Linda, October 22, over which Dr. Frank Garcelon, Pomona, presided, while Dr. Charles C. Browning, Highland, acted as secretary. A committee consisting of Drs. C. von Swalenburg, Riverside, Daniel W. White, San Bernardino, and Elverton E. Major, Redlands, was appointed to consider the organization of a district society.

Northeast Kansas District Medical Society.—This society was organized at Kansas City, Kan., November 24, with 40 members. The counties which form the district are: Atchison, Brown, Doniphan, Douglas, Geary, Jackson, Jefferson, Johnson, Leavenworth, Marshall, Morris, Nemaha, Osage, Pottawatomie, Riley, Shawnee, Wabaunsee and Wyandotte. The purpose of the district organization is to aid the state society in the various phases of its work, but more particularly in the enforcement of the medical practice act. The following officers were elected: Dr. Russell A. Roberts, Kansas City, president; Dr. William E. McVey, Topeka, vice-president; Dr. James Naismith, Lawrence, secretary, and Dr. Clarence C. Goddard, Leavenworth, treasurer. The society will meet in Topeka, Feb. 5, 1903.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Surgery, Oct. 13, 1902.

Dr. Robert T. Morris in the Chair, protem.

Preoperative Preparation of the Surgeon and His Assistants.

DR. GEORGE R. FOWLER, Brooklyn, read this paper. With regard to disinfection of the hands he said that he preferred the general cleansing by combined mechanical and chemical means. As the nail brush is prone to cause fissures about the nails, it is well to substitute folds of sterile gauze for the nail brush. Metallic nail cleaners for a similar reason are desirable. At one time he endeavored to eliminate this source of infection by having the nails kept very closely trimmed. This

answered well for the purpose intended, but the consequent loss of tactile sense and the inability to pick up small instruments finally caused him to discard this method. He recently found that an excellent method of cleaning the nails was by seesawing with the selvage edge of sterile gauze. He elaborated this idea by having constructed a frame of steel spring wire, like the frame of a keyhole saw, and substituting for the saw a small round brush. After thorough scrubbing and disinfection of the hands with alcohol they are usually sterile for a short time, but if placed in warm water for a few minutes microbes will quickly come to the surface.

The author thought rubber gloves undeniably of value, but said their sphere of usefulness was limited to examinations of very septic cases. They are inappropriate for ordinary operative work because of the impairment of tactile sense, the risk of tearing or puncturing them and the catching of the needle in the gloves. The fact that they really poultice the hands, and thus cause numerous microbes to come to the surface of the hands, explains how they may become an added source of danger. He is in the habit of filling the creases in the hand with a solution of potassium permanganate and corrosive sublimate, and one not familiar with the method would be astonished at the coating that dries on the hands after their immersion in this solution. While operating he prefers to dip the hands from time to time in a solution of corrosive sublimate of the strength of 1 to 2000. For this purpose it has been found that a cold solution is much more effective than a hot one.

Dr. Fowler then went on to consider the danger of infection from the uncovered hair, whether of the head or beard. It is only necessary to refer to the frequent presence of dandruff in the scalp, to say nothing of street dust, to see the necessity for covering the head during an operation. He prefers the use of a closely-fitting cap for this purpose. The mouth is also known to be a source of infection, for, while it is probably true that bacteria are not thrown off during quiet expiration, it is entirely different when expiration becomes more forcible or conversation is indulged in. Bacteriologic studies have proved indisputably that under such conditions bacteria are thrown to a considerable distance, which not only shows the need of covering the mouth during operation and refraining from unnecessary conversation, but also suggests the advisability of enjoining silence on all the spectators at surgical clinics.

DISCUSSION.

DR. FREDERICK HOLME WIGGIN approved of the suggestion to use sterile gauze instead of the nail brush. He is accustomed to cleanse the hands and arms by scrubbing for several minutes with a stiff sterile bristle brush and tincture of green soap, and then washing first with alcohol and then with an alcoholic solution of bichlorid of mercury, 1 to 300. A final cleansing is given with sterile water. Only during prolonged operations does he think it necessary to dip the hands into a disinfecting solution, and for this purpose he uses an alcoholic solution of bichlorid, and follows it with sterile salt solution. While he has never used the cap, it is his custom to guard against infecting the wound with perspiration by wearing on the brow a scarf made of several layers of gauze. Conversation during operations should be reduced to the minimum, not only because of possible infection from this source, but because it serves to distract the attention of the operator.

DR. CARL BECK thought it probable that in many instances an infection has been attributed to improperly prepared catgut, when in reality it had arisen from the coming to the surface of bacteria that had been sheltered in the follicles of the skin. The application of tincture of iodin is a good means of controlling skin infection.

DR. MARTIN W. WARE pointed out that cotton gloves should prove superior to rubber ones because they do not tend to macerate the skin of the hands.

DR. JOSEPH WIENER, JR., earnestly recommended rubber gloves, and insisted that those who persisted in their use for two years would find that most of the difficulties of manipulation incident to their use would disappear. After such an experience he would not now think of doing any abdominal operation, any clean or any septic operation without rubber gloves. He now rarely punctures them, and he finds that he can palpate fully as well with as without them. In the surgical work at the Mt. Sinai Hospital it has been recently discovered that the gloves can be used with greater facility, and that the hands underneath can be kept dry, by free dusting with sterile talcum powder. One of the great advantages of operating with rubber gloves is that should the operator happen to infect the finger by handling pus, the rubber gloves can be almost instantly disinfected, whereas the uncovered hand requires at least fifteen minutes.

DR. ROBERT T. MORRIS remarked that the danger of infection from the puncture of rubber gloves would vary from day to day, depending on the individual powers of resistance at the time. He thought it would be difficult for an inexperienced operator to become expert in palpation with the rubber gloves unless he had previously had the advantage of training in palpation without the use of these gloves. Surgeons who operate with rubber gloves take longer to do a given operation than when they do not use these gloves. The speaker has recently been experimenting with certain sulphite depilatories with a view to securing destruction of skin bacteria, and so far with very encouraging results. As blood serum is known to be germicidal, it is doubtful if it is necessary to dip the hands in a disinfecting solution while operating.

DR. FOWLER, in closing, said he was glad that mention had been made of the danger of infection from perspiration, for he felt sure he had seen one fatal case due to this cause. The application of tincture of iodin to the skin, particularly in emergency, where there was no opportunity for proper preparation of the patient, is an excellent practice which he has used for the past ten years. If rubber gloves are admitted to interfere with the tactile sense, then this objection applied with fifty-fold more force to the use of cotton gloves. He has tried the chlorin method faithfully, and while it seems to satisfactorily sterilize the hands it produces so much irritation of the skin as to make it necessary for many surgeons to avoid it.

Treatment of Diseased Joints by Plaster Strapping.

DR. F. R. COOK described this method, so earnestly advocated by Dr. V. P. Gibney, in 1893, and in many places known by his name. In order to secure full benefit from this treatment it is not enough to merely make a diagnosis of sprain; one should determine what ligaments are involved, whether these have more than one insertion or function, and what special fasiculi are sprained. This information is usually obtained by learning what is the position of the part at the time of the injury, the position of the parts when at rest and when in motion after the injury, and by comparing the amount of pain produced by forcing the parts into all of the extremes of motion of which the joint is capable. It is also well to determine the areas of maximum tenderness and maximum local heat. The strapping acts as a support to the sprained ligaments, as a means of producing counter-irritation or fomentation of the injured part, and produces massage within proper limits. In cases of contusion the strapping is applied with the parts relaxed, and in sprains, with the parts in closer approximation. The method is also applicable to many cases of stiffened joints following fractures or over-immobilization. In strapping the wrist he uses very narrow straps applied in a figure-of-eight. When there is much effusion in the knee-joint, one strap should be carried around the joint at its center, and then the others applied alternately above and below the knee, the straps meeting at the hamstring muscles and diverging. In strapping the shoulder the first straps should be carried from the chest around the shoulder to the back, and then the others applied above and below as in strapping the knee.

BUFFALO ACADEMY OF MEDICINE.

Regular Meeting of the Section on Surgery, held Nov. 3, 1902.

The President, Dr. Herman Hayd, in the Chair.

DR. ROSWELL PARK read a timely paper on "The Physics and Therapeutic Value of the (Roentgen) Cathode and Ultra-Violet Rays, with Certain References to the Electro-Magnetic Theory of Light; with Exhibition of New Instruments for Phototherapy."

Dr. Park referred to the electro-magnetic theory of light, and also to the studies which culminated in the discovery by Roentgen of the cathode rays. These rays are of short vibration, a velocity of 250,000 yards a second, as compared to other light rays, such as the Hertzian rays of longer vibration, and the latter made available by Marconi in his wireless telegraphy apparatus. The source of the cathode rays is electrical discharges in vacuum, and it was in vacuum that Roentgen studied these electrical discharges.

Dr. Park referred to the phenomenon of phosphorescence and to the rare metals radium and uranium, which have great actinic properties. This was illustrated by an experimenter who, carrying one of these metals on his person, suffered a deep and painful slough near the point of contact. These light rays exercise an influence on animal organisms. They also affect plant life, for in their growth plants turn to source of light.

The rays have a bactericidal effect on bacteria, which has been shown by several experimenters, the heat rays being less effective than the chemical rays.

The ultra-violet rays are capable of producing many of the effects of sunlight, i. e., the chemical rays of sunlight on the skin; lesions varying from dermatitis to gangrene can be produced and it seems that this effect is more pronounced in blondes. The actinic effect of light is proportionate to the absorption.

Dr. Park alluded to the influence of light on the variolous process, the deepest scars and marks occurring in such places not protected from the light, head, neck, forearm and hands, to the treatment of smallpox in the middle ages by placing such patients in environments of red light. He also spoke of a photodermatic sense by which certain animals can distinguish by their integument between red rays and blue rays.

Light rays are a bactericidal agent, the question now is as to the depth of penetration. This is proven by the excellent results of the treatment of lupus by the Finsen method. Dr. Park showed the Finsen plano-convex lens, and also the arc-light condenser, which is used for this purpose, and emphasized that the part to be treated should be made bloodless, so as to prevent the blood from absorbing the rays. For this purpose several methods of compression have been devised, such as ice, rock salt, and quartz lenses. A protection should be given to the skin or parts not to be exposed. There are three sources from which the ultra-violet rays may be obtained, (1) sunlight, (2) arc light, (3) condensor spark. The ultra-violet rays and *x*-rays are bactericidal. During the contact with the rays organisms do not thrive, but removed from their action they will thrive and grow again.

As to the therapeutics of the cathode and ultra-violet rays Dr. Park stated that the kind of lesions which often yield to the action of these rays are lupus, cancer, actinomycosis, furunculosis, etc. The efficacy of action being due to the property of either destroying or preventing growth of germs, this being, according to writers, in part an explanation of the disintegrating effects noted, notably in cancer, which he believes to be parasitic in origin. The rays are better than caustic plasters and pastes, which are not so selective in its action.

A remarkable effect from the use of the rays is the relief of pain seen in deep and superficial cancer. This symptom is often relieved by one or two applications; for this reason it may be used in neuritis and vaginal affections associated with pain.

Dr. Park has submitted 100 cases to the *x*-rays and ultra-violet rays for treatment. A Finsen plant has been installed and is now ready for use at his clinic at the General Hospital. Some of the cases treated have been successful, in others no improvement was to be seen. The phototherapy is useful for superficial growths and of limited area; it relieves pain; it is adopted to inoperable cases; it relieves the odor of putrefaction in sloughing growths. Burns from its use can be avoided, it is a good supplementary treatment after operations, and does not interfere in its application with a person's business. Dr. Park protects the parts not to be exposed from burns by a layer of putty between layers of oiled silk.

DR. ELMER G. STARR referred to certain experiments of *x*-rays on bacterial life. Cultures were placed on colored glass plate and exposed to rays. In red glass bacterial life was fair; in the yellow glass growth was good, equal to sunlight, whereas, in blue glass the growth was checked.

DR. H. R. GAYLORD stated that the continental physicians still regarded the actinic therapy as being in an experimental stage, but great hopes of ultimate good was entertained. It was used in Breslau in Mikulicz's clinic, and the effects as yet are uncertain. Some cancers are known to disappear.

DR. MATTHEW D. MANN stated that he had used the *x*-ray treatment on a number of inoperable cases of cancer at the General Hospital. In one case the effects after three months are marvelous. The case was a woman, 50 years of age, with a cancer of the uterus involving cervix and vagina and inoperable. After a three months' vacation in Europe, the patient being treated meanwhile, he examined her and found her practically well. All cases of cancer are not so successful and Dr. Mann believes that the epitheliomata are the class of cases most benefited. The treatment is now being used on a case of cancer of the external genitals, involving vulva and vagina. It is an epithelioma far past operative interference; another case of epithelioma of cervix is being treated in this manner.

DR. HERMAN HAYD pleaded for conservatism in the use of *x*-rays, and stated that in early cases of cancer no time should be wasted in attempting to check growths, but the surgeon's knife is the most certain means. He is somewhat disappointed in the use of the *x*-rays. On one case of scirrhus cancer it was used after operation, but there was no diminution in growth. It may be that the rays have a selective action for certain forms of cancer, the epitheliomata being those from which the better results can be obtained.

DR. PARK, in closing, stated that the *x*-rays should never replace surgical procedure in early cancer cases. It is a good adjuvant and valuable to use after operations.

SANITARY CONFERENCE OF THE AMERICAN REPUBLICS.

Meeting held in Washington, D. C., December 2 to 6, 1902.

Temporary Chairman, Dr. Ulloa of Costa Rica, in the Chair.

This conference, called by the governing board of the International Union of the American Republics in accordance with a resolution adopted at the Second International Conference of the American States, held in the City of Mexico, 1901-02, assembled in Washington, December 2.

Welcome.

The delegates were welcomed to the city by Dr. Walter Wyman, Surgeon-General of the United States Public Health and Marine-Hospital Service, who spoke of the meeting in Mexico last winter as inaugurating a new era in the progress of civilization in the new hemisphere, as it provided for the International Conference on Customs, International Coffee Commission and International Conference on Sanitation and Quarantine. The Secretary of the Treasury and the Assistant Secretary of State extended greetings from their departments. Senor Quesada, minister from Cuba, spoke with much warmth of the part the United States had taken in bringing about better sanitation in Cuba, and paid eloquent tribute to Gen. Leonard Wood, U. S. Army, late military governor of Cuba, and to the late Major Walter Reed for his efforts in ridding the country of yellow fever. Addresses were also made by the Mexican ambassador, Don Manuel de Aspiroz; Major Walter D. McCaw, representing the Army, and Medical Director George P. Bradley, on behalf of the Navy.

Receptions.

A reception to visitors was given at the New Willard, December 3, and they were received by President Roosevelt at noon on December 4.

Committee on Organization.

Dr. Ulloa of Costa Rica was made temporary chairman and appointed as Committee on Organization, Dr. Carlos Finlay, Cuba; Dr. Eduardo Moore, Chile; Dr. H. L. E. Johnson,

Washington, D. C.; Dr. Glendower Owen, and Minister Felipe Carbo, Ecuador. This committee reported the following plan of organization:

Your committee respectfully reports that, to carry out the intent of this Sanitary Conference, there should be:

1. A president, who shall also be the chairman of the executive board known as the International Sanitary Bureau.

2. One vice-president from each republic represented at this conference. The duties of the vice-presidents shall be in the order named, to preside in the absence of the president.

3. A secretary. The duties of the secretary shall be to keep a record of the proceedings of the conference from day to day, with a view to their publication, to be followed by the publication of specially prepared papers relating to the subjects before the conference.

4. An advisory council, to consist of six delegates. The president shall be ex-officio a member of said advisory council. The duties of the advisory council shall be to prepare the program from day to day, to examine and pass upon the papers which it is proposed to be presented before the conference, to consider resolutions that are presented in general meetings and report upon them to the general conference, with recommendation either for their passage or rejection, and to attend to such other matters as may be referred to it.

The committee further nominates the following officers to fill the positions named above, namely: For president, Surgeon-General Walter Wyman, U. S. P. H. and M.-H. Service. For vice-presidents, Dr. Moore, Chile; Dr. Ulloa, Costa Rica; Dr. Guiteras, Cuba; Minister Carbo, Ecuador; Consul General Shernikow, Salvador; Lazo-Arriaga, Guatemala; N. B. Peraza, Honduras; Dr. Liceaga, Mexico; Dr. Roman, Nicaragua; Mr. Stewart, Paraguay; H. L. E. Johnson, United States, and Chargé de Affaires Herrera, Uruguay. For secretary, Dr. Arthur R. Reynolds, Chicago. For members of the advisory council, Dr. Rhett Goode, U. S.; Dr. M. J. Rosenau, U. S.; Dr. Juan Guiteras, Cuba; Dr. E. Liceaga, Mexico; Major Walter D. McCaw, U. S., and Dr. Ulloa, Costa Rica.

The International Sanitary Bureau shall consist of five members, one of whom shall be the president of this conference, the other four members to be nominated to the conference by the advisory council, and the said council shall also recommend to the convention the time and place for the next annual conference.

The report was unanimously adopted by the conference.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hemicrania.

N. F. Howard, in *Atlanta Journal-Record*, employs the following combination in the treatment of migraine:

℞.	Ammon. muriatis	ʒiii	90
	Tinct. belladonnæ	ʒi	4
	Tinct. hyoscyami	ʒii	8
	Aq. menth. pip.	ʒiv	16
	Aq. camphoræ q. s. ad	ʒxvi	480

M. Sig.: One half to one teaspoonful given in sweetened water every two or three hours.

Hemoptysis.

Lemoine, in an abstract in *Amer. Med.*, states that in the hemoptysis occurring at the beginning of tuberculosis, the patient should have absolute rest in bed in a well-aired room and given easily-digested food; revulsion is accomplished by the use of hot foot-baths and purgative enemas. A mustard plaster may be applied to the chest and thighs. Internally the following is given:

℞.	Pulv. ergotæ	gr. viiss	50
	Quininæ sulph.	gr. ivss	30

M. Ft. cachet No. i. Sig.: To be taken in the morning with a bowl of milk.

In the course of tuberculosis, he employs ergotin as follows:

℞.	Ergotin	gr. 1/6	01
	Acidi lactici	gtt. x	65
	Aq. destil	ʒiiss	10

M. Sig.: Four drops may be injected hypodermically at the beginning. If the hemoptysis is persistent, tartar emetic or ipecac must be used.

According to the same periodical iodoform may be given internally in divided doses in the treatment of tuberculosis. The dose is grain 1/6 (.01 gm.) at a time, not exceeding grains 10 (.6) daily. Usually 3 grains (.2) are sufficient. In any case the susceptibility of the patient will govern the dose, which must be small at first. Iodoform is incompatible with alkalies and calomel. It may be used internally, as follows:

℞.	Iodoformi	gr. i	06
	Guaiacol (crys.)	gr. xlv	3
	Olei amygdalæ dulcis	m. iii	20

M. Ft. capsulæ No. iii. Sig.: One three times a day; or:

℞.	Iodoformi	gr. xv	1
	Olei amygd. dulcis	Oi	500
	Spts. cinnamomi	m. xv	1

M. Sig.: One tablespoonful three times a day; or:

℞.	Iodoformi	gr. xv	1
	Olei morrhuæ	Oi	500

M. Sig.: One tablespoonful three times a day.

Externally iodoform is employed in the form of iodoform collodion as follows:

℞.	Iodoformi	gr. xx-ʒi	1.30-4
	Collodii	ʒi	30

M. Sig.: Apply locally to the affected parts.

The foregoing, according to the author, may be employed in all forms of tuberculous suppurations, hydrocele, and exophthalmic goiter. The following combination may be used by injections into the trachea in laryngeal tuberculosis:

℞.	Iodoformi	gr. xv	1
	Olei olivæ (sterile)	ʒi	30

M. Sig.: To be used in small amounts intratracheally or hypodermically.

Expectorants in Bronchitis.

The following preparations are valuable expectorant mixtures, according to *Pract. Druggist*, which may be employed in the treatment of the different forms of bronchitis where expectorants are indicated:

℞.	Ammon. carb.	gr. x	65
	Tinct. opii camph.	ʒi	4
	Tinct. scillæ	ʒi	4
	Syr. tolutani	ʒii	8
	Decoct. senegæ q. s. ad	ʒii	60

M. Sig.: One teaspoonful every three or four hours; or:

℞.	Syr. pruni virg.		
	Syr. scillæ comp.		
	Spts. etheris nitrosi		
	Tinct. opii camph., āā	ʒi	30

M. Sig.: One teaspoonful three or four times a day; or:

℞.	Olei picis liq.	m. xv	1
	Ext. marrubii flu. (horehound)	ʒss	2
	Olei anise	m. i	06
	Spts. frumenti	ʒi	30
	Mellis despumati q. s. ad	ʒii	60

M. Sig.: One half to one teaspoonful three or four times a day; or:

℞.	Syr. senegæ		
	Syr. pruni virg.		
	Syr. acaciæ, āā	ʒi	30

M. Sig.: One teaspoonful every four hours for a child.

La Grippe.

The following combination containing heroin is recommended by the *New Orleans Med. and Surg. Jour.* in the treatment of la grippe:

℞.	Heroin	gr. ¾	045
	Ammon. chloridi	ʒi	4
	Syr. picis liq.	ʒi	30
	Syr. tolutani	ʒi	30
	Syr. pruni virg.	ʒss	15

M. Sig.: Two teaspoonfuls every three or four hours.

Salol in Cystitis.

According to the *Jour. de Med. de Paris*, it is advantageous in certain cases to prescribe salol internally in the form of an emulsion. The following preparation is recommended in the treatment of cystitis or gonorrhea instead of the powder:

℞.	Salol	ʒi	4
	Gum arabic	ʒi	4
	Gum tragacanth.	gr. iii	20
	Tinct. tolutani	ʒiiss	10
	Syr. simp.	ʒi	30
	Aq. destil.		

M. Sig.: One teaspoonful three times a day.

Gout.

The following outline of treatment is recommended by Colbeck and Chaplin in the treatment of gout: A mercurial purge in combination with compound jalap powder, colocynth, or rhubarb should constitute the initial treatment, followed after a few hours by a saline aperient. One of the following mixtures should then be prescribed:

℞.	Potassii bicarb.	gr. xx	1 | 30
	Potassii citratis	gr. xv	1 |
	Vini colchici	m. xv-xxx	1-2 |
	Spts. chloroformi	m. viii	| 50
	Aquæ menth. pip. q. s. ad.....	℥i	30 |

M. Ft. mistura. Sig.: Two tablespoonfuls to be taken every four to six hours; or:

℞.	Vini colchici	m. xv-xxx	1-2 |
	Mag. sulph.	℥ss	2 |
	Mag. carb.	gr. x	| 65
	Aq. menth. pip.	℥i	30 |

M. Sig.: Two tablespoonfuls to be taken every four hours; or:

℞.	Ammon. chloridi	gr. xv	1 |
	Potassii citratis	gr. xx	1 | 30
	Liq. ammon. cit.	℥ii	8 |
	Spts. etheris nitrosi	℥ss	2 |
	Syr. limonis	℥ss	2 |
	Aq. camphoræ q. s. ad.....	℥i	30 |

M. Ft. mistura. Sig.: Two tablespoonfuls every four to six hours.

The use of local anodyne applications is usually indicated, which may be combined as follows:

℞.	Linimenti opii		|
	Linimenti chloroformi		|
	Linimenti belladonnæ, āā.....	℥i	30 |

M. Ft. linimentum. Sig.: To be applied freely to the inflamed joint; or:

℞.	Chloralis hydratis	gr. ii	| 12
	Tinct. opii	℥ii	8 |
	Aquæ q. s. ad.....	℥i	30 |

M. Sig.: To be applied freely to the inflamed joint.

The authors state that after the subsidence of the acute inflammatory process the following ointment may be applied for the relief of the itching and for the promotion of the absorption of the inflammatory products:

℞.	Chloralis hydratis	gr. ii	| 12
	Potassii iodidi	gr. x	| 65
	Lanolini		|
	Adipis, āā	℥ss	15 |

M. Ft. unguentum. Sig.: To be applied locally to the inflamed joint.

To relieve the pain and insomnia:

℞.	Pot. bromidi	gr. xx	1 | 30
	Tinct. hyoscyami	℥ss	2 |
	Tinct. lupuli	℥i	4 |
	Aquæ camphoræ q. s. ad.....	℥i	30 |

M. Sig.: Two tablespoonfuls at bedtime.

In chronic gout the following combinations are of service in increasing the elimination:

℞.	Liquoris arsenicalis.....	m. iii	| 20
	Potassii iodidi	gr. v	| 35
	Syr. sarsap. co.	℥ss	15 |

Sig.: To be taken at one dose in a wine glass of water three times a day; or:

℞.	Lithii cit.	gr. x	| 65
	Potassii cit.	gr. xv	1 |
	Tinct. colchici	m. x	| 65
	Syr. limonis	℥i	4 |
	Aquæ q. s. ad.....	℥i	30 |

M. Sig.: Two tablespoonfuls to be taken three times a day.

Dilatation of the Stomach.

According to the *Med. Press and Circular*, Professor Robin of Paris does not recognize the existence of dilatation of the stomach except as a consequence of spasm or contracture of the pylorus. However, in rare cases, he states the possibility of such occurrence from atony, or atrophy of the muscular coat. The most characteristic symptoms are epigastric undulation, tension of the same region, pain, regurgitation, eructations and vomiting. If these phenomena come on two hours after eating, the pylorus is very probably the origin of the cause. The medical treatment consists in the administration of alkaline solutions to diminish or destroy the hyperacidity of the gastric juice. The following combination is recommended:

℞.	Sodii sulph.	℥i	4 |
	Sodii bicarb.	℥ss	2 |
	Sodii chloridi	gr. xx	1 | 30
	Aq. q. s. ad.....	Oii	1000 |

M. Sig.: Ten ounces to be taken in the morning while fasting, and in three parts, twenty minutes between each. The dose should be increased by two ounces every morning up to half a quart. Among other preparations may be mentioned olive oil, antiseptics, washing out the stomach, purgatives, massage and electricity.

Medicolegal.

Itinerant Doctors' Statute and Dentists.—By Section 700 of the Iowa code the power is given cities and towns to regulate, license and tax "itinerant doctors, itinerant physicians and surgeons," etc. The question was raised in the case of the City of Cherokee vs. Perkins whether a practitioner of dental surgery comes within the definition of itinerant doctor or itinerant physicians and surgeons. In answering this question, the Supreme Court of Iowa says that it has been held that the terms "dentist" and "surgeon" are not interchangeable. Certain it is that the professions are largely separate and distinct from each other. The practice of each is regulated by different chapters of the code, and the legal rights, duties and responsibilities of each are disssimilar in very many respects. If, therefore, the power to license and tax, given to municipalities by statute, is to be confined to "physicians and surgeons," then we note that the language can not be extended to include "dental surgeons." In the opinion of the writer of the Supreme Court's opinion (Bishop, J.), there is every reason for holding the statutes applicable to dentists which could be urged in respect of physicians and surgeons, and the legislature intended to include dentists in the general term "itinerant doctors." The majority of the court, however, hold to the opinion that the provisions of the statute can not be extended so as to include dental surgeons; that, if the legislature had intended to make them subject to the statutory provision, it would have so said in terms; that the expression "itinerant doctor," as found in the statute, is to be classed with the succeeding expression, "itinerant physician and surgeon"; and that both relate to those persons who in some form, or following some school, practice either medicine or surgery, or both.

Act of Insane Person—Committing Suicide.—The Supreme Court of Illinois says, in Supreme Lodge Mutual Protection vs. Gelbke, that the act of an insane man is not morally his act, so as to impose moral responsibility or render him amenable to the criminal law, because he is unable to understand his duties and obligations or to form a criminal intent; but the act would be his in fact if it was the result of his volition, although under a delusion. The suicidal act of an insane man is intentional if it is voluntary, with the purpose to take his own life, and with knowledge that such will be the effect of the act. Here there was an agreement in a contract of life insurance which provided for exemption from liability if the death of the insured should be caused by his own suicidal act, whether sane or insane, leaving nothing open, by its terms, except the question whether it was his act, and the Supreme Court holds that the provision rendered the certificate void if the insured committed suicide, unless he was in such a state of mind as to be unconscious of the physical nature of the act which caused his death. Again, it says that the word "suicide" and the words "to die by his own hand," or "by his own act," or "to take his own life," mean the same thing, and each conveys the idea of voluntary, intentional self-destruction. The agreement of the insured in this case was that, if his death should result from his own suicidal act, whether sane or insane, the insurer should not be liable; and, if he took the poison voluntarily, understanding the physical

nature and consequences of his act, with a purpose and intention to cause his death, it made no difference whether he was sane or insane, or whether his intent was rational or irrational. To hold that he must have formed a rational intention would be to make no distinction between an agreement for exemption in the case of committing suicide without any provision as to mental capacity and one like this. A rational intent is one founded on reason, as a faculty of the mind, and opposed to an irrational purpose.

Injury Developing Latent Disease—Delirium Tremens.—The United States Circuit Court of Appeals, First Circuit, says that it appeared in evidence in Maguire and others vs. Sheehan, a personal injury case brought by the latter party, (1) that prior to his injury the man was in good health; (2) that the delirium tremens which retarded his recovery was caused by the shock of the injury; (3) that the violent acts which delayed the healing of the wound and the knitting of the bones were committed while in a state of delirium More particularly it appeared in evidence that after the man was taken to the hospital delirium tremens ensued, and that while he was on his back, and should have remained in one position, in order that his leg might knit, this attack of delirium tremens rendered him practically insane, so that he moved about, tore his bandages, and even got out of bed, and that that delayed the knitting of the wound, and had prevented a recovery as complete as otherwise might have been had; in other words, that the man's previous alcoholic condition affected the injuries which resulted from the accident. The parties sued requested that the jury be instructed that, if the man voluntarily put himself in a physical condition where delirium tremens might easily be developed by the shock of an accident, he would be responsible so far as such condition prevented his recovery. They admitted the general rule that, where a personal injury develops a latent disease, the person whose negligence caused the injury is liable to respond in damages for the results of the disease, as well as of the original injury, but they insisted that a distinction should be made between different diseases. It was not denied that the rule applies to malaria, scrofula, rheumatism, erysipelas, cancer and lockjaw, but it was said that it did not apply to ailments which were caused by voluntary and intemperate habits. But the Court of Appeals, holding against the parties sued, says it is not aware of any such exception to the general rule. The difficulties of establishing such an exception are apparent. How far a latent disease, called into activity by an injury, is the result of the habits or voluntary acts of the injured, is a matter of speculation, and necessitates the investigation of difficult and occult questions of cause and effect, which lie outside the scope of judicial inquiry. Beyond general expressions in some decisions, which at most were mere dicta, there was no authority cited by the parties sued which supported their contention. As an almost universal rule, the courts have declined to recognize any such distinction.

Claims Against Estate—Attendance on Tenants.—In the case of Baker vs. Dawson, administrator, an action brought by a physician, the Supreme Court of North Carolina says that it was admitted that the physician rendered medical services within twelve months just prior to the death of the owner of the estate, as follows: (1) To deceased personally, $347; (2) services to deceased's wife and child, $84; to tenants of deceased, $36. The physician sought to have all of the above adjudged to be preferred debts, under section 1416 of the North Carolina code, which places among the sixth class of preferred debts "medical services within the twelve months preceding the decease." This language, however, the Supreme Court says, contemplates only services rendered to the deceased personally; for the indebtedness is given priority if rendered within twelve months prior to his decease, and not within twelve months prior to the decease of his wife, child or tenant. As to them, the physician renders the services like any other creditor, relying on the credit of the person requesting the services that he will pay or can be made to pay. It must be noted that there is no priority, even for medical services rendered the deceased personally, unless he dies. In all other cases the physician's bill is like any other debt. If the physician wishes to secure such debts he must exact security or proceed to collect by law. When the patient is in his last illness this might be inconvenient or indecent, and, as such illness might extend to twelve months, the law endeavors to secure for the patient medical attention by giving a legal priority for such services, if rendered to the patient within twelve months preceding his decease. But such reason does not apply to services rendered his wife and children, as to which the physician has extended credit, relying on the father or husband or landlord himself paying the debt incurred. There are no words extending the meaning to such debts other than personal services to the debtor, and the language of the statute is restrictive—"For medical services within twelve months prior to the decease,"—meaning the decease of the debtor, not of his wife, child or tenant. The statute, being in derogation of the equity of a pro rata, or proportionate, distribution, should be strictly construed, so as not to confer a priority over other creditors unless clearly called for. And the court says that the trial judge rightly disallowed any priority as to medical services rendered the tenants of the deceased, but erred in rendering judgment therefor, to be paid pro rata with other debts of the deceased, since it was not alleged or proved or admitted that the services were rendered to the tenants at the request of the deceased, and without this the landlord is not liable for such services. It says the judge also erred in adjudging that the bill for medical services rendered the wife and child of the deceased was a preferred debt. He should have rendered judgment for the amount thereof, to be paid pro rata with the other unpreferred indebtedness of the deceased.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, November 29.

1 *The Surgery of Brain Tumors from the Point of View of the Neurologist, with Notes of a Recent Case. Charles K. Mills.
2 *Some Experiments upon the Immunization of Cattle Against Tuberculosis. Leonard Pearson and S. H. Gilliland.
3 Methemoglobinemia Due to Acetanilid, but without Any Marked Constitutional Symptoms. Richard C. Cabot.
4 *The Local Use of Iodin in Corneal Ulcers. J. Lawton Hiers.
5 A Test-Tube Filler. F. E. Montgomery.

New York Medical Journal, November 29.

6 The Works of Edward Jenner and Their Value in the Modern Study of Smallpox. (To be concluded.) George Dock.
7 *Typhoid Fever and Drinking Water. A. Seibert.
8 *Tent Life in the Treatment of Tuberculosis. A. Mansfield Holmes.
9 Orthoform in the Diagnosis of Gastric Ulcer. Frank H. Murdoch.
10 Uric Acid Bothers. William S. Stoakley.

American Medicine (Philadelphia), November 29.

11 *The Importance of a More Careful Examination and Treatment of Women After Childbirth. B. C. Hirst.
12 *Some Facts Which Show that the Tuberculosis Bacillus of Human Origin May Cause Tuberculosis in Cattle, and that the Morphology and Virulence of the Tubercle Bacilli from Various Sources Are Greatly Influenced by Their Surroundings. E. A. de Schweinitz, Marion Dorset, and E. C. Schroeder.
13 *The Pathology of Katabolism in Relation to the Etiology and Pathology of Cancer and Allied States. (Concluded.) Homer Wakefield.
14 *A Further Contribution to the Study of Modern Amputations. W. L. Estes.
15 *The Use and Abuse of Bromids in the Treatment of Mental Diseases. A. R. Defendorf.
16 *Myxedema. B. C. Loveland.

Medical News (N. Y.), November 29.

17 Preventive Medicine. William A. Howe.
18 Reminiscences of Nearly Half a Century in Medicine and Surgery. Charles K. Briddon.
19 *The Hyoscin Treatment of a Morphin Habitué. Randle C. Rosenberger.
20 *Some Phases of Infantile Feeding. Edward T. Abrams.
21 *Appendicitis. Lewis S. Blackwell.
22 *Albargin or Gelatose Silver in the Treatment of Gonorrhea. Hermann G. Klotz.
23 *The Influence of Alcoholic Heredity in Diseases of Children. T. D. Crothers.
24 *The Early Diagnosis of Intussusception. F. Huber.

Medical Record (N. Y.), November 29.

25 *Paratyphoid Fever. N. E. Brill.
26 *Report of a Case of Successful Suturing of the Heart, and Table of Thirty-seven Other Cases of Suturing by Different Operators with Various Terminations, and the Conclusions Drawn. L. L. Hill.

27 *Hyoscin in the Treatment of Drug Habits. Howard C. Russell.
28 *Inflammation and Perforation of Meckel's Diverticulum as a Cause of Septic Peritonitis, with a Report of Two Cases of Typhoid Perforation of Meckel's Diverticulum. A. E. Halstead.

Boston Medical and Surgical Journal, November 27.

29 *The Normal Appendix: Its Length, Its Mesentery, and Its Position or Direction, as Observed in 656 Autopsies. George H. Monks and J. Bapst Blake.
30 *Six Cases of Rupture of the Intestines, with Four Recoveries. F. B. Lund, E. H. Nichols and Jno. T. Bottomley.
31 *Some Cases Which Were Not Pernicious Anemia. John L. Morse.
32 A Case of Poisoning by Thallium. William N. Bullard.
33 *Tetany in Gastric Disorders. (Concluded.) Lawrence W. Strong.

Cincinnati Lancet-Clinic, November 29.

34 *An Improved Method of Circumcision. Louis J. Krouse.
35 Gunshot Wound of the Abdomen. Perforations of Stomach and Duodenum: Operative Recovery. J. F. Baldwin.
36 Surgery of the Prostate, Pancreas, and Diaphragm. (Continued.) B. Merrill Ricketts.

Virginia Medical Semi-Monthly (Richmond), November 21.

37 *Drainage After Abdominal Section. Stuart McGuire.
38 Rheumatic Neuritis, or Tabes Dorsalis—Case for Diagnosis. John J. Taylor.
39 *Curettement of the Uterus. Geo. Ben Johnston.
40 *Puerperal Appendicitis. Edward Ricketts.
41 *Gonococcal Auto-Reinfections from the Seminal Vesicles. Terry M. Townsend.
42 Etiology and Treatment of Acne Vulgaris. F. H. Beadles.
43 *Gant's Femoral Osteotomy. A. R. Shands.
44 Fatal Secondary Hemorrhage from Umbilicus Eight Days After Birth. Ramon D. Garcin.
45 The Present Day Mortality of Pneumonia. Alex G. Brown, Jr.
46 An Original Method of Setting and Treating a Fractured Knee-Cap. R. Bruce James.

Medical Age (Detroit, Mich.), November 25.

47 *Etiology of Appendicitis. H. E. Randall.
48 Climate and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Other Diseases. J. E. MacNeill.
49 *The Value of Hypnotism as a Therapeutic Remedy. G. M. Henderson.

St. Paul Medical Journal, December.

50 The Care of the Insane in Minnesota. Helen Bissel.
51 *Leucocytosis in Pneumonia. Alexander Lambert and R. M. Daley.
52 *The Radical Cure of Cancer of the Stomach. Wm. J. Mayo.
53 Some Observations on Puerperal Eclampsia. J. B. McGaughey.
54 A Case of Intestinal Obstruction with Some Special Features. Arnold Schwyzer.
55 Trachelorrhaphy and Perineorrhaphy for Severe Injuries Received During Labor. George E. Putney.

Albany Medical Annals, December.

56 *Operative Interference in Epilepsy. Robert E. Doran.
57 Cystitis. Charles B. Mallery.
58 *Treatment of Cerebral Rheumatism by Cold Baths. M. Shellenberg.
59 Report of Four Cases of Arterial Embolism of the Extremities. George H. Fish.

Iowa Medical Journal (Des Moines), November 15.

60 Surgery of Prostatic Obstruction. L. E. Schmidt.
61 Stricture of the Esophagus Following Typhoid Fever. M. L. Turner.
62 *Home Remedies. C. W. Miller.
63 Sternal Dislocation of the Clavicle. L. Schooler.
64 Eclampsia—Especially Etiology and Treatment. W. H. Rayner.
65 Hemorrhagia Ventriculi. J. F. Richardson.
66 The Appendix in 528 Autopsies. George Boody.

Proceedings of the Philadelphia County Medical Society (Philadelphia), November.

67 *The Nervous Symptoms of Chronic Bright's Disease. James H. Lloyd.
68 *The Ocular Manifestations in Chronic Bright's Disease. G. E. de Schweinitz.
69 Treatment of the Nervous Phenomena in Chronic Nephritis. James M. Anders.
70 *The Etiology of Gastroptosis. Albert P. Francine.
71 Preliminary Report on Experiments to Determine the Pressure in the Bile Ducts in Floating Liver. J. Dutton Steele.
72 Diseases of the Rectum a Specialty. Herman A. Brav.

Woman's Medical Journal (Toledo, Ohio), November 15.

73 The Responsibility of the Surgeon in Caring for Patient. Anna Braunwarth.
74 *Septicemia and the Curette. H. Plympton.
75 Myoma of Broad Ligament. Kate S. Harpel.

Richmond Journal of Practice, September.

76 *Gonococcal Auto-reinfections from the Seminal Vesicles. Terry M. Townsend.
77 *Dependent Drainage in Acute Extensive Intra-pelvic and Intra-peritoneal Infection in Man by Incising the Perineum, Separating the Rectum from the Prostate and Bladder, and Puncture of the Recto-vesical Pouch of the Peritoneum. Hugh M. Taylor.
78 *Puerperal Appendicitis. Edward Ricketts.
79 *Curettement of the Uterus. Geo. Ben Johnston.

Clinical Review (Chicago), December.

80 *Surgery of the Stomach for the Relief of Non-malignant Pathological Conditions. A. J. Ochsner.
81 Appendicitis. Robert T. Morris.
82 Typhoid Fever. Norman Bridge.

Chicago Medical Recorder, November 15.

83 *Peritoneal Adhesions. Robert T. Morris.
84 *The Treatment of Typhoid Fever. Henry B. Favill.
85 Bloodless Reduction of Congenital Dislocation of the Hip-Joint and Demonstration on Several Cases. Adolf Lorenz.
86 The Armour Case. Professor Lorenz's Operation for Congenital Dislocation of the Femur. John Ridlon.
87 Neuroretinitis Due to Disease of the Kidney. Henry Gradle.
88 Massage and Gymnastics in Gynecology. George Rubin.

Toledo Medical and Surgical Reporter, December.

89 The Treatment of Contagious Diseases. W. W. Brand.
90 The Care of Smallpox Patients. James J. LaSalle.
91 *Septicemia and the Curette. H. Plympton.
92 Relation of the Local to the State Board and Duties of the State Board. W. C. Chapman.

Medical and Surgical Monitor (Indianapolis), November 15.

93 *The Roentgen Ray in Obstetrics. Joseph B. Cooke.
94 Injuries of the Abdomen. Samuel L. Ensminger.
95 *Phthisis Pulmonalis—It Is a Curable Disease. J. W. Crismond.
96 Electrical Injuries. J. B. Fattic.
97 A Report on Four Cases Treated by Anesthesine. Simon P. Scherer.

Medical Sentinel (Portland, Ore.), November.

98 Organization of the Medical Profession. J. T. Murray.
99 Was Harry Tracey Insane? Henry W. Coe.
100 The Prophylaxis of Variola. C. A. Cordiner.
101 Some Observations on the Treatment and Prevention of Catarrhal Deafness in Children. Hicks C. Fenton.

Ophthalmic Record (Chicago), November.

102 Report of a Case of Spontaneous Perforation of the Cornea, in the Center of a Macula Which Had Existed for More Than Six Years, the Perforation Not Closing Until the Twentieth Day. C. A. Veasey.
103 *A Simple and Effective Method of Determining the Degree of Deviation in Squint. Nelson M. Black.
104 *The Correction of Myopia. A. C. Friedmann.
105 *The Full Correction of Myopia. Edward Jackson.
106 Aspergillar Keratitis. E. C. Ellett.

Canada Lancet (Toronto), December.

107 The Asylum, the Hospital for the Insane, and the Teaching of Psychiatry. Stewart Paton.
108 Clinical Notes on Gynecological Cases at the Samaritan Hospital for Women, Montreal. A Lapthorn Smith.
109 Three Cases Presented by Dr. James Stewart before the Canadian Medical Association. Malcolm Mackay.
110 *The Diagnosis of Diseases of the Gall Bladder and Bile-Ducts. Alexander McPhedran.
111 *The Medical Treatment of Diseases of the Biliary Passages and Gall Bladder. A. D. Blackader.
112 Notes on Mastoid Operations. A. B. Osborne.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), December.

113 *Epidermolysis Bullosa Hereditaria. Grover W. Wende.
114 *Four Forms of Generalized Exfoliative Dermatitis (Erythrodermies exfoliantes généralisées, Besnier). John T. Bowen.
115 A Case of Zoster of the Eleventh Dorsal Root Followed by a General Herpetic Eruption, part of Which Was Also Segmental in Distribution. Charles J. Aldrich.
116 Gonorrheal Ophthalmia, Infection from a Kid Glove. Frederick Griffith.

Medical Examiner and Practitioner (N. Y.), November.

117 Location in Its Bearings on Life Assurance. Ira W. Porter.
118 Mortality and Its Cost. O. Millard.
119 Occupations. R. E. Moss.
120 The Medical Treatment of Pulmonary Tuberculosis. George D. Barney.
121 The Medical Aspect of Life Insurance. L. Amster.
122 Some Practical Observations on the Diagnosis and Prognosis of Cardiac Disease. Louis F. Bishop.
123 *Septicemia and the Curette. H. Plympton.

Laryngoscope (St. Louis), November.

124 *Choroiditis Cantorum: A Contribution to the Study of the Etiology, Pathology and Treatment of Singers' Nodes, or Nodules on the Vocal Chords. F. E. Miller.
125 *Benign Tumors of the Nasopharynx. Francis J. Quinlan.
126 Thrombosis of the Lateral Sinus and Internal Jugular Vein, with Reinfection of the Sinus After Ligation of the Vein. M. D. Lederman.
127 *Rapid Dilatation and the Prolonged Use of Intubation Tubes in Stenosis and in Cicatricial Occlusion of the Larynx. Report of Two Cases. J. Payson Clark.
128 A New Device for Syringing the Ear. Lewis G. Langstaff.

Kansas City Medical Record, November.

129 Preventive Medicine. E. E. Gilmore.
130 Rabies. T. C. Boulware.
131 *Septicemia and the Curette. H. Plympton.

Canadian Practitioner and Review (Toronto), November.

132 Landmarks in the Uterus. Byron Robinson.
133 Insanity: Its Causes and Remedies. James Russell.
134 Case of Intestinal Obstruction. Everett S. Hicks.

International Medical Magazine (N. Y.), November.

135 *The Etiology of Cancer. A. Robin.
136 *Cancer of the Rectum. Samuel G. Gant.
137 *The Treatment of Malignant Disease by the Roentgen Rays. Charles L. Leonard.
138 *The Destruction of Cancerous Growths and Sterilization of the Surrounding Tissues by Mercuric Cataphoresis. G. Betton Massey.
139 Observations on Skin Cancer, with Remarks on Its Treatment by Cauterization and Excision. Levi J. Hammond.
140 Carcinoma of the Upper Respiratory Tract. E. B. Gleason.
141 Carcinoma and the Nervous System. F. Savary Pearce.
142 The Diagnosis of Gastric Cancer from Round Ulcer. Boardman Reed.

Alabama Medical Journal (Birmingham), November.

143 Crime and Its Causes. H. L. Appleton.
144 *Septicemia and the Curette. H. Plympton.
145 Child Labor—A National Curse. J. Lawton Hiers.
146 A Case of Bright's Disease Benefited by the Use of Apocynum Cannabinum. R. B. Paine.
147 Treatment of Typhoid Fever. O. L. Shivers.

Southern California Practitioner (Los Angeles), November.

148 Medical and Edible Plants of Southern California. Laura E. King.
149 *Treatment of Pneumonia. Frank W. Thomas.
150 Cystic Degeneration of the Chorion with Report of Two Cases. Hoell Tyler.
151 European Surgery. Andrew S. Lobingier.
152 Enteroptosis. Oscar J. Kendall.

Medical Times and Register (Philadelphia), November.

153 Extrinsic Lesions of the Spine, Dependent on Traumatism. Thomas H. Manley.
154 *Septicemia and the Curette. H. Plympton.

Mobile Medical and Surgical Journal, November.

155 Two Cases Illustrating the Correction by Operation of Deformities Produced by Infantile Paralysis. Michael Hoke.
156 Indications for Operation in Mastoid Empyema. S. Kirkpatrick.
157 A Brief Visit to "Surgical" Chicago. W. R. Jackson.
158 Uricacidemia. B. F. Coleman.
159 *Stone in the Kidney, with Report of Two Cases. Mack Rogers.

New Orleans Medical and Surgical Journal, December.

160 Topography of the Ureters. Byron Robinson.
161 What Should Be Done to Spread a Better Knowledge of Skin Diseases, and Thereby Reduce to a Minimum the Errors in Diagnosis. J. N. Roussell.
162 Circumcision for Chancroid and Other Causes. P. L. Bellenger.
163 Two Hundred Accidental Injuries. R. W. Seay.
164 A Case of Gunshot Wound of the Abdomen, with Remarks. W. E. Parker.
165 Chronic Varicocele, Superinducing Pronounced Hypochondriac Symptoms—Excision (Howse-Bennett-Parker Method). Burdett A. Terrett.

Columbus Medical Journal, November.

166 The Lacerated Perineum and Cervix. Joseph S. Rardin.
167 Anatomy of the Pleuræ. Charles W. McGavran.
168 Pleurisy—Pathological Anatomy. G. W. Rogers.
169 Treatment of Pleurisy. C. A. Howell.
170 Laryngismus Stridulous. Elmer T. Kuhn.
171 The Importance of Objective Symptoms in Orthopedic Surgery. William L. Dick.

Pediatrics (N. Y.), November 15.

172 *Fixation, the Essential of Treatment for Tubercular Joint Disease. Edward A. Tracy.

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1. **Brain Surgery.**—Mills believes in operation for brain tumors in carefully chosen cases notwithstanding the large percentage of failures, which he attributes to the errors of localization, lack of exactness in the cranial areas, excessive hemorrhage, contusions of the brain, prolongation of operations and the disturbance of the balance of pressure in the skull. The record as to localization is increasing favorably and the Roentgen rays are material assistants, becoming more and more important. He prefers the Anderson-Makins method of locating the chief craniocerebral landmarks. These writers suggest 1, a median sagittal line, from the glabella to the inion; 2, a frontal line from the midsagittal point to the depression just in front of the ear at the level of the upper border of the meatus; 3, a squamosal line, from the most external point of the external angular process, at the level of the superior border of the orbit, to the junction of the middle and lower thirds of the frontal line, and prolonged for about an inch and a half behind the frontal line. The upper extremity of the central fissure was found by them to lie between the midsagittal point and a point three-fourths of an inch behind it, and the lower extremity of this fissure they located near the squamosal line about three-fourths of an inch in front of its junction with the frontal line. The commencement of the lateral portion of the Sylvian fissure is not at a definite fixed point, but can be usually found at a point one and a half to two inches behind the angular process, the course of the horizontal portion of this fissure corresponding closely to the squamosal line. The parieto-occipital notch is placed at a point seven-twelfths of the distance from the midsagittal point to the inion. The longitudinal sinus frequently deviates toward the right side in the caudal portion of its course. It is Mills' custom not only to locate the position of the tumor where possible, but also to fix the limits and direction of the osteoplastic flap which it seems most desirable to make. He prefers the Stellwagen trephine to the ordinary trephine, the rongeur, the mallet and the chisel, as it saves a great deal of danger from concussion of the brain. For cerebellar tumors he remarks the best operation is one in which the interfering neck muscles are turned back and a good opportunity thus afforded for the scalp-flap and the ordinary trephine. If great care is taken in placing this trephine, the sinuses can be generally avoided and the opening enlarged by the rongeur so that a tumor confined mainly to one lateral lobe of the cerebellum may be removed. Unfortunately these tumors arise generally in the middle lobe and the peduncles and present unsurmountable difficulties. The proximity of the great sinuses adds difficulties to cerebellar operations. He details Keen's opinions in regard to the method of reaching the tumor in these parts. He speaks also with favor of controlling hemorrhage by compression of the carotids as suggested by Crile. In conclusion he reports a case of localized meningitis and gumma of the motor region—diagnosed by clinical study and the Roentgen rays, and successfully operated on. The article is well illustrated.

2. **Tuberculosis.**—Pearson and Gilliland briefly report experiments made by them with bovine and human tuberculosis in the inoculation of cattle. They conclude from their research that they are justified in assuming that after repeated intravenous injections of cultures of tubercle bacilli from human sputum the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures which are otherwise capable of causing death or extensive infection. That intravenous injections of much larger quantities of culture of human sputum tubercle bacilli than are necessary to confer a high degree of resistance or immunity on the vaccinated animal, may be employed without danger to that animal. They are experimenting as to the proof of this immunity and the extent to which it is effective in protecting cattle against infection from natural causes and also as to the minimum quantities of culture of non-virulent tubercle bacilli which will serve to produce immunity.

4. **Iodin in Corneal Ulcers.**—Hiers reports a case of the use of iodin in corneal ulcers and remarks that since the beginning of his use of this medication he has treated something over two hundred cases, both those of the phlyctenular variety and those of traumatic origin. He concludes that the special adaptability of iodin, used in the tincture form, is to ulcers of the indolent type. It lessens rather than increases scar tissue. The majority of cases yield readily to its first employment.

7. **Typhoid Fever and Drinking Water.**—The causes of typhoid fever are discussed by Seibert, who notices the seasonal effect on its occurrence as shown by figures of New York City and the Prussian Army, two widely separated localities, with largely the same factors at work. He also gives diagrams showing the typhoid mortality in various cities, some of which are quite striking, especially those of Hamburg, Berlin and other German cities before and after filtration was introduced. It seems evident from this that the chief source of typhoid infection is the pollution of drinking water. In summing up the results of his investigation, he offers the following in substance: All rivers, brooks, creeks and lakes located in populated districts of the United States and Germany have long since become permanently infected by typhoid bacilli. The chief carrier of the typhoid germ is drinking water of the cities and towns, and all cities and towns which are compelled to take their drinking water from such sources are in duty bound to cleanse the same by central sand filtration at the waterworks.

8.—See abstract in THE JOURNAL of October 25, p. 1066.

11. **The After-Treatment of Childbirth.**—Hirst thinks that it would be an inestimable blessing to child-bearing women if every physician who laid no claim to special skill in gynecic surgery would have his patients inspected by a specialist shortly after labor and again at the end of the puerperium.

12. **Human and Bovine Tuberculosis.**—De Schweinitz, Dorset and Schroeder report experiments with the inoculation of animals with human tuberculosis bacilli and claim that there can be no doubt that the latter can produce the disease in cattle. The artificial media on which the cultures are made affect the morphologic appearance of the bacilli as well as their virulence.

13. **Cancer.**—Wakefield's conclusions are too lengthy to be reproduced. He holds that the cause of degenerative growths is what he calls sub-katabolism. Cancer is not necessarily a parasitic disease. When bacteria become causative factors they do so acting either as irritants, or by their acid excretions, acting directly and in conjunction with sarcolactic acidity. Cancers are prone to infection, though not more so than other forms of sub-katabolism. He defines this sub-katabolism as a retardation of normal katabolism due to lack of actual alkali and oxidation.

14. **Amputations.**—Estes gives an analysis of a large number of amputations both single and multiple. With the exception of amputations through the thigh above the lower third, there has been no death following amputation in these cases, which is a notable improvement on his former experience as reported by him in 1894. The very high mortality of amputations of the upper third of the thigh is also remarkable. He remarks on the fact that hip amputations, which are usually considered so formidable, showed no greater mortality than those of the upper portion of the thigh. The only difference in the condition and treatment was that in the latter cases the tourniquet is used and in the former the amputation is done by gradual dissection, with careful hemostasis during every step of the operation by means of hemostats. The greater length of time required by this method, he thinks, is not necessarily conducive to fatality and the non-necessity of constriction in a general way is an advantage.

15. **Use and Abuse of Bromids.**—Defendorf calls attention to the danger of the overuse of bromids and their habitual overemployment in insanity. He thinks that if necessary to employ them, they should be alternated with other hypnotics, which is a good rule for all sedative or hypnotic drugs.

16. **Myxedema.**—Loveland reports two cases and calls attention to certain points of diagnosis. Both patients lacked the commonly seen skin pigmentation. In the first case a nervous shock seemed to be very obviously the cause; in the second there was a history of glandular inflammation in the throat, in which the thyroid was probably involved. The slow and weak pulse was also noted. He calls particular attention to the character of the voice in these cases which can not be accurately described, but must be heard to be appreciated. Both cases were improved by thyroid treatment.

19. **Hyoscin in Treatment of the Morphin Habit.**—The case reported by Rosenberger was treated by the total withdrawal of morphin and large doses of hyoscin at short intervals; 1/100 of a grain being given every hour for four and one-half days at one period. The patient was apparently delirious or semi-delirious for several days. The hyoscin was kept up for fourteen days altogether, during which time the patient had taken 1 and 22/25 gr., followed later by 1/30 gr. of nitrate of strychnia four times daily. The favorable results of the case impressed the author with the value of this form of treatment.

20. **Infant Feeding.**—The indications for the variation of sugar, fats and proteids in infant feeding are given by Abrams as follows: 1. If the bowel movements are curdy we may take it as an indication of an excess of proteids. 2. Sour vomiting indicates too much fat. 3. Stools that are very watery but without curds may depend on too much sugar or too much fat. 4. Vomiting of hard curdy masses may indicate too much proteids. 5. Should the child seem to do well on the mixture in every way except that it does not gain in weight, then the sugar may be too low. 6. Vomiting may mean that the child has eaten too much. These rules are not absolute, but they are sufficiently correct for a guide. He sums up by concluding that:

1. Breast milk is the best infant food.
2. That no artificial food can or should be trusted which does not contain the essentials of breast milk, viz.: fat, proteids and sugar.
3. That the elements named are to be found only in milk, cow's milk being the only one available for general use.
4. That cow's milk must be modified because it does not contain the same proportions of the elements named.

21. **Appendicitis.**—Blackwell notices the frequency of appendicitis and the importance of its diagnosis. The recognition of the fact that one-half the cases recover under medical treatment should, in a measure, lead to deliberation and restriction within legitimate bounds of operative procedures.

22. **Albargin.**—This substance, which is said to be composed of nitrate of silver in gelatose, containing 15 per cent. of the silver nitrate, has been employed by Klotz in gonorrhea with very good results. He finds that in small doses of 1 to 2/1000 it is non-irritating, but he would not assume responsibility for the effects of strong solutions of one-half to 1 and 2 per cent., though he has never seen trouble from it himself. He is inclined to consider the drug as coming near to Neisser's idea of an ideal gonorrheal gonococcocide and that it deserves a trial.

23. **Alcoholic Heredity in Children.**—Crothers notices the condition in children characterized by feeble vitality and degeneration of the cell and nerve function and the special affinity of the brain centers for stimulants and narcotics as the result of heredity in children of alcoholic parentage. He gives the general principles which should govern the treatment of such cases, absolute abstinence from all alcoholics and narcotics and from meats on account of their stimulating character. A hygienic treatment consisting in everything that can build up the system and avoid brain and nerve stimulation is required, with careful guarding against all extremes.

24. **Intussusception.**—The chief sign for early diagnosis is given by Ruber as the characteristic colic. Next is noticed more or less change in the facies of the child; vomiting sets in, followed by the escape from the rectum of blood or bloody mucus, and more or less collapse. A swelling or rather fulness is noted in the right iliac fossa, particularly during the colicky attacks. This symptom-complex is characteristic, and if the possible occurrence of intussusception is kept in mind an early diagnosis can be made without difficulty.

25.—See abstract in THE JOURNAL of November 8, p. 1205.

26. **Heart Wounds.**—Hill reports an interesting case of wounds of the left ventricle, three-eighths of an inch in extent, causing severe hemorrhage, treated with catgut suture and ending in recovery. He gives an analytic table of the cases that have been reported, and concludes from his own experience and a review of the cases tabulated, that any operation which reduces the mortality of a given injury from 90 to about 63 per cent. is entitled to a permanent place in surgery, and that every wound of the heart should be operated on immediately. In any case where there is a suspicion of a wound of the heart exploratory operation should be performed at once. Unless the patient is unconscious and the corneal reflex abolished, an anesthetic should be given, preferably chloroform. Struggling is liable to produce a detachment of the clot and renew the hemorrhage. Never probe the wound, as serious injury may be inflicted on the myocardium. Rotter's operation renders access to the heart extremely easy, and should be generally adopted. Steady the heart before attempting to suture it, either by carrying the hand under the organ and lifting it up, or, if the hole is large enough, introduce the little finger as did Parozzani, which will serve the double purpose of stopping the bleeding and facilitating the passage of the stitches. Catgut sutures should be used, as wounds of the heart heal in a remarkably short time, and they should be interrupted, introduced and tied during diastole, and not involve the endocardium. As few as possible should be passed, preventing leakage, as they cause a degeneration of the muscular fiber, with its tendency to dila-

tation and rupture. In cleansing the pericardium it should be sponged out, and no fluid poured into the sac. Perfect cleanliness should be secured excepting in cases where instant intervention is required. The wound in the pericardium should be closed, and if symptoms of compression appear, reopened and drained.

27. **Hyoscin in Drug Habits.**—Russell reports a case treated by hypodermics of hyoscin at comparatively long intervals, not one of the cases where they were given every hour, such as have been reported. The results seemed to be good.

28. **Perforation of Meckel's Diverticulum.**—Halstead reports two cases and discusses the literature, finding only two similar cases of typhoid perforation. He remarks that in none of the reported cases was the cause of the symptoms recognized before the abdomen was opened.

29. **The Normal Appendix.**—From their observations, Monks and Blake deduce the following conclusions:

1. *Length.*—The average length of the appendix in men, women and children, indiscriminately, is 7.9 cm. (3 inches); the extremes being 1 cm. (a little over 1-3 of an inch) and 24 cm. (a little over 9 1-3 inches).

There is apparently no relation between the length of the body, the sex or age of the subject, and the length of the appendix, except that children are apt to have an appendix proportionately longer than adults.

2. *Mesentery.*—Fully one-half of all appendices have a mesentery (meso-appendix) which reaches nearly or quite to the tip. Of the other half by far the greatest proportion have mesenteries reaching as far as the middle point of the appendix or beyond it. Occasionally an appendix has no mesentery at all.

3. *Position (or Direction).*—The commonest position for the appendix is "down and in" (that is, toward the pelvis), the appendix very frequently hanging over the brim. The second commonest position is "behind the cecum." The third is "down" and the fourth is "in." The appendix is in one of these four positions in about three-quarters of all cases.

30. **Rupture of the Intestine.**—Six cases are reported here, including four recoveries. In one there was no evidence of direct contusion of the abdominal wall. It seemed to be a case of rupture from within and the results of a sort of contrecoup. The most important factor in these cases is the length of time allowed to elapse between the accident and the hour of operation. Beyond the fourth or fifth hour every hour of delay adds greatly to the danger of a fatal issue.

31. **Pseudo-Pernicious Anemia.**—The cases reported by Morse which justified the clinical diagnosis of pernicious anemia were found due to malaria and to hemorrhages from hemorrhoids and the bladder. He calls attention to the importance of looking for slight and frequent hemorrhages as a cause of this condition.

33. **Gastric Tetany.**—The chief part of Strong's paper is a critical discussion of the literature and the opinions in regard to the subject. He summarizes as follows:

1. The condition is a symptom-complex, indicative of an increased nervous irritability, probably central in location.
2. The muscular spasm is a reflex phenomenon set loose by some mechanical stimulation, as vomiting or lavage, with possibly a direct action, in the case of pressure and electrical stimulation of peripheral nerve trunks. The spasm, however, can not be produced without the antecedent nervous irritability.
3. The chief factor in the diagnosis is the muscular spasm itself, affecting the arms in a characteristic manner. Other symptoms, while usually present, are not of absolute diagnostic value.
4. The etiology of the underlying nervous hyperirritability is unknown. The theory of intoxication is the only one adequate to explain the condition.

34. **Circumcision.**—The method here described and illustrated by Krouse consists in perforating the prepuce over the corona and cutting down from the top on a grooved director from this perforation to another similar one on the side of the frenum, repeating this on the other side and finishing the incision below. He obtains the best results from this method.

37. **Drainage in Abdominal Section.**—The conditions requiring drainage are summed by McGuire as follows: 1. In uncontrollable bleeding, as after enucleation of an intraligamentous cyst. 2. When profuse serous transudation is probable, as after the removal of a large adherent ovarian tumor. 3. When localized collections of pus are found, as in case of an appendiceal abscess. 4. When acute general peritonitis exists. 5. When protective adhesions are desired, as in drainage of the gall-bladder. 6. When secondary infection is feared, as in some cases of intestinal lesions. He describes the different forms of drains, including his own, a soft gum tube surrounded by numerous strands of cordine in a casing of thin rubber tube. The inner tube projects beyond the cordine and the latter beyond the outer tube.

39. **Curettement of the Uterus.**—The rules formulated by Johnston are: 1. Have a distinct and sufficient reason for the procedure. 2. Observe a most scrupulously perfect technic as to asepticism. 3. Dilate the cervix slowly and thoroughly under anesthesia. 4. Apply the curette with great gentleness, but completely and thoroughly removing all diseased tissues. 5. Conduct the subsequent dressings and after-treatment with the same rigid care that appertains to other surgical operations.

40. **Puerperal Appendicitis.**—The following are the conclusions of Ricketts' article:

1. That puerperal appendicitis is as distinct as salpingitis, with or without pus. 2. It can be diagnosed and differentiated from a puerperal septicemia due to other causes. 3. That many cases of peritonitis arise from the infected appendix, and not from the results of pregnancy and child-birth. 4. The reason that puerperal appendicitis has been overlooked explains why it is claimed that appendicitis is more frequent among males than females. 5. With puerperal appendicitis recognized the disease will be found as often among women as among men.

41. **Gonococcal Reinfections from the Seminal Vesicles.**—According to Townsend, spermato-cystitis is a frequently overlooked complication of gonorrhea and a prolific cause of recurrent gonorrhea. A differential diagnosis from acute gonorrhea can be made and is essential to correct treatment. Clear urine may often be seen while gonococci abound in the seminal vesicles. Especially careful examination and observation of these organs should be made before assurance of cure and before consent to marriage is given.

43. **Gant's Femoral Osteotomy.**—This operation is recommended by Shands as deserving more general adoption. It consists in a subtrochanteric osteotomy, and he gives the details of the technic as follows:

The field of operation having been rendered aseptic, a sand bag is placed between the thighs and pressed firmly against the perineum by an assistant, who at the same time holds the patient on the side; the osteotome is introduced in the long axis of the femur about a finger's breadth below the trochanter minor and by manual force is forced down to the bone. No scalpel is used. The osteotome should be sharp enough to cut its own way through the soft structures with light pressure. As soon as the bone is reached, one gentle tap of the mallet will cut through the periosteum; the instrument is then turned in the transverse axis of the bone under the periosteum, which makes the operation subperiosteal as well as subcutaneous. A few blows with a mallet will force the osteotome into the medullary cavity; the instrument is then partly withdrawn and tilted so that a few more blows from the mallet will divide the upper fragment of the bone; and after the same has been done for the lower fragment, the fracture can be easily completed by manual force. Great care should be had not to use sufficient force to break up the adhesion of the head of the femur to the ileum, or to splinter the shaft of the femur at the seat of the operation. The only local dressing used is a piece of gauze and a small strip of adhesive plaster to hold it in place. The limb is put up in a plaster of Paris spica extending from the nipples to the toes, after bringing the limb into the best possible position obtainable.

When the limb is flexed to a right angle on the thigh, and often when not so much distorted, the muscles inserted about the anterior posterior spinous process and the fascia lata will have to be divided before the limb can be brought into its proper position; this can be done subcutaneously and adds nothing to the gravity of the operation.

47. **Appendicitis.**—Randall considers that appendicitis is due to previous bowel trouble. He notices the frequency of appendicitis in returned soldiers from the Philippines, while they suffered very little there from it. As long as the flux continued the appendiceal trouble did not seem to develop, but it is a later consequence.

49. **Hypnotism.**—Henderson thinks that hynotism is of value in treating the insane, though it is very uncertain. It has, however, a tendency to increase delusions, and it should be used only in selected cases. He considers it specially indicated in the treatment of so-called "semi-conscious pain," which he illustrates by cases, while its employment would be wrong in some forms of hysteria. He insists on the importance of differentiating hysterical paraplegia from actual organic disease in these subjects, as hypnotism is not good for this special hysteric symptom. In conclusion he remarks: "Always have the full consent of the patient and have some responsible friend or relative of the patient present. Do not try experiments, but use it legitimately."

51.—See abstract in THE JOURNAL of November 8, p. 1205.

52.—Ibid.

56. **Epilepsy.**—Doran, who is first assistant at the Craig Colony, reviews the results of operative interference in epilepsy from the data in the literature and his personal experience. He classifies the operations under three headings: 1. Those undertaken with the expectation of removing the source of irritation in the brain. 2. Those done on the theory that the disease is caused by some abnormality of intracranial pressure or circulation. 3. Those promoted by a belief in the reflex origin of epilepsy. In the first group various operations such as trephining for cysts and tumors in the brain are included. In the second belong tapping and drainage of the cerebral ventricles, ligature of one or both vertebral arteries, etc., while in the third class are a great variety of procedures, such as cutting eye muscles and all the numerous operations for eye-strain, removal of nasal and other growths, division of the sympathetic, excision of the cicatrices, castration, circumcision, oöphorectomy, etc. Many of these operations are no longer in use, though he does not condemn them entirely. Reflex epilepsy is undoubtedly rare, yet all possible sources of reflex irritation should be sought for and treated, and the patient should have the benefit of the doubt if there is a possibility of the operation being helpful, and if it is not too dangerous. He does not feel much enthusiasm from the results in his experience. Considerable operative work has been done at Craig Colony with results that have not been altogether satisfactory. The experience of recent years has done much to fix the limitations of the operation of trephining. Of the 29 cases trephined at the Colony either before or after admission, the result in those trephined before can be estimated by the fact of their admission, and these include 24 cases. Of 5 cases trephined at the Colony, 2 were done too recently to be mentioned. The records of the other 3 are given, and in no case did they show a cure, though there was a temporary or partial benefit in 2. In one there appears to have been little benefit from the operation. These were all reoperations, having been previously operated on before admission, and they were all kept under medical treatment after operation. To this is attributed the partial good results in at least one case. These results are not encouraging and show the futility of late operations. The earlier after the onset of epileptic symptoms the better the chances. Cases should be selected with great care and studied from both the medical and surgical standpoints. Partial epilepsy is not altogether an indication, and the question of heredity should be considered. The second operation specially noted is that of oöphorectomy. Doran says that when everything else has been tried, and the patient is becoming worse morally, mentally and physically, and especially when erotic tendencies are present, which make it dangerous to allow her any liberty, and the attacks are worse and occur more frequently at the menstrual period, and still more so when there is ovarian disease which would justify operation in a non-epileptic patient, there certainly can be no harm in removing the ovaries. Four cases are reported. In one there seemed to be good results, but there had been long periods of freedom from the disease before, and there was a source of irritation in the diseased organs which justified operation. In the others there was improvement, but it is too early yet to judge of the results. He thinks that many so-called cures resulting from operation have been reported too soon, though if the patient goes three years without convulsion, we may perhaps consider it a recovery. Too much dependence must not be placed on the operation itself. The patient's general health should be watched, the diet regulated, and the bromid treatment used if it is possible to benefit the condition. It is of special importance also that the patients should abstain from alcohol, their habits be carefully regulated and that they should be kept from all forms of excess and all mental and physical overexertion.

58. **Cerebral Rheumatism.**—The value of cold baths in cerebral rheumatism is discussed by Shellenberg, who thinks that even with excessive hyperpyrexia and cerebral complications there has been a high mortality, and it is possible that by resorting to the bath the fatal issue may be avoided.

67. **Chronic Nephritis.**—The nervous symptoms of chronic Bright's disease are noticed by Lloyd, who divides them into those which manifest themselves, first, in the regional, and second, in the general way. By regional he means affections of the cerebrum; by general, those that impair the general tone or the whole nervous system so as to constitute a symptom-complex that is not unlike the general state known as neurasthenia. Of the former he remarks that they are manifested almost exclusively in the brain. There are few, if any, spinal or peripheral affections caused by derangement of the kidneys, and this may be taken as a general law. The one exception is in the optic nerve, but it is practically a prolongation of the cerebral axis. Headache is a symptom of very grave importance. He does not say that it is common, but it is frequently overlooked. There is no other symptom which should do more to teach us the rule that every patient should have the benefit of a urine analysis. There is only one type of headache more obscure and intractable; that is the morning headache of gout. Distinction between the two is sometimes difficult. The headache of Bright's disease, however, is rarely so isolated a symptom. There is generally some associated failure of health, appetite and strength and generally a neurasthenic state. There may be nausea and vomiting with it so as to simulate migraine, as may also the eye symptoms. Only a very careless observer, however, would confound the two. Some authors refer to deafness, with associated giddiness, as being caused by Bright's disease and seem to think the auditory nerves are probably affected, but this is largely speculative. Among the most striking regional symptoms, which are often preceded by headache and amblyopia, are uremic convulsions as well as minor convulsions and stupor. There is nothing absolutely distinctive about the convulsion and coma of uremia and the diagnosis must be made by the process of exclusion and history of the case, and examination of the urine, and even then some of these factors are so uncertain that an accurate diagnosis is often difficult. He gives illustrative cases and shows how a physician may be discredited by his diagnosis. The brain symptoms may closely resemble those of organic disease within the cranium, and the closest study may be required. We must remember, however, that albumin and tube casts do not exclude tumor. He refers to Dr. Riesman's paper at Saratoga on uremic aphasia (THE JOURNAL, October 11), and accounts for such on the theory of a vascular lesion. A predisposing focal lesion in the brain and uremic poisoning in the blood in addition may act as a paralysant on the starved tissue. In conclusion he calls attention to the curious hysterical and neurasthenic symptoms which sometimes occur, especially in the early course of Bright's disease. He thinks that such patients are sometimes given rest treatment, as being purely neurotic. The only safe rule is to make a clinical examination of the urine.

68. **Ocular Manifestations in Nephritis.**—De Schweinitz reviews the various forms, first enumerating them, including complete blindness, the various types of retinitis and neuroretinitis, alterations in the caliber and relation of the retinal vessels owing to sclerotic changes in their walls, with or without hemorrhages and exudates in the retina, alterations in the uveal tract, some varieties of cataract, paresis and paralysis of the ocular muscles, especially the superior oblique and the external rectus, and recurring subconjunctival hemorrhages. These are discussed at length. He thinks fully 25 per cent. of the cases of chronic Bright's disease in general hospitals are affected by various forms of retinitis. The prognosis as regards life is bad with these conditions, and remarks are made as to the close resemblance between cerebral tumor symptoms and those of Bright's disease in certain cases. He also thinks the recurring subconjunctival hemorrhages ought to receive consideration among the ocular signs of nephritis.

70. **Gastroptosis.**—While the etiology of this and associated conditions is difficult to explain, Francine recognizes two sets of causes: the predisposing and the exciting. The former are congenital weakness and hereditary predisposition. Among the most frequent of the latter are tight-lacing, rapid emaciation, disease of the abdominal integuments, or anything that constricts the thorax or enlarges the capacity of the abdomen. Enteroptosis, or more specifically coloptosis, is generally agreed to be the primary factor physiologically and to precede the gastroptosis. The kidney and liver follow later. In other

words, there is a vicious circle in which the abdomen and hepatic flexure are first involved and secondarily the stomach and kidney. Late investigations seem to point to the liver as the primary factor in many cases of enteroptosis, and there is little doubt that it would be impossible for the intestine to remain long in place after dislocation of the liver. Chlorosis and neurasthenia should be looked on as manifestations of a common underlying cause, supposedly constitutional weakness or faulty development, rather than as direct causative factors.

74.—See editorial in THE JOURNAL of November 22, p. 1327.

76.—See also title 41, above.

78.—Ibid., 40, above.

79.—Ibid., 39, above.

77. **Intra-Pelvic Drainage in Males.**—Taylor has made dissections to determine whether the peritoneal pouch in the male pelvis can be drained to advantage similar to that of the female. He finds the rectum loosely attached behind, but more closely so in front, by the prostatic peritoneal aponeurosis, connected with the recto-vesical fascia. It, however, allows separation of the rectum from the prostate and bladder. The anterior wall of the rectum can be separated by blunt dissection and reflected toward the sacrum. Recalling the fact that the recto-vesical pouch is the most dependent point of the peritoneal sac, he reports a case where, through an unfortunate error in dressing, the patient was lost, though the operation was a success. A perineal incision was made and the rectum separated by simply pushing the finger in the perineal wound up to the recto-vesical pouch—a blunt dissection with the finger. He thinks this plan, however, in spite of the misfortune in this case, has a decided advantage over any other plan when dependent pelvic and abdominal drainage is required. With the peritoneal cavity opened and assisted by one hand in the pelvis above, this procedure is as easy as opening the Douglas cul-de-sac through the vagina. He thinks drainage can often be effected without opening the abdomen above, and in some cases may tide the patient over a crisis just as is done by intravaginal drainage. If, however, the recto-vesical pouch is not distended, he doubts whether it would be an easy matter to puncture it as it would easily be pushed inward by the finger or the scissors. If protection to the urethra is thought essential, it can be secured by passing a sound into the bladder. A more probable accident, he thinks, would be a puncture of the rectal wall, but this would be very improbable because of the loose attachment and the added safeguard of a finger as a guide in the rectum.

80.—See abstract in THE JOURNAL of November 8, p. 1205.

83. **Peritoneal Adhesions.**—The importance of preserving intact the peritoneal endothelium is insisted on by Morris, who criticises long operation, the use of rubber gloves, etc., as being the causation of adhesions from injury to the endothelium. He points out the dangers of adhesions in producing angulation of the bowel, bloating, involvement of the sensory nerves, and therefore the production of pain, etc. The remedy which he notices is covering the denuded surfaces with omentum according to Senn's method in selected cases, but an extension and amplification of this principle seems to be offered in the use of Cargile membrane for covering denuded surfaces of the peritoneum.

84.—See abstract in THE JOURNAL of October 18, p. 1001.

91.—See editorial in THE JOURNAL of November 22, p. 1327.

93. **Roentgen Ray in Obstetrics.**—Cooke finds that the value of the *x*-ray for studying the dimensions of the pelvis is practically lost on account of the difficulties of its use, and at best it is probably not so reliable as mensuration and palpation performed by a skilled observer. In the study of the gravid uterus the results are wholly unsatisfactory when compared with those obtained by the ordinary recognized methods of examination. For diagnosing certain forms of ectopic gestation fairly reliable presumptive evidence may possibly be secured, but more positive methods will be needed before it can be accepted. Advanced pseudocyesis could doubtless be detected by the use of the rays, but a little chloroform will accomplish the same results more easily. In suspected twin pregnancies, where diagnosis can not be made with certainty, the *x*-ray may have a distinct diagnostic value and would doubtless be of service.

95. **Phthisis Pulmonalis.**—Crismond claims good results from the following treatment: Injection under aseptic precautions of cod liver oil containing bromin and iodin, beginning with 15 minims, and increasing 5 minims each day until 60 minims are reached, keeping this up as long as the patient is under treatment, that is, from two to three months. He also anoints the patient every night after a cabinet bath, with two ounces of perfumed cod liver oil. The patient's nasal cavities are thoroughly sprayed with an antiseptic fluid every morning and his lungs and respiratory organs are filled with nebulized medicine. This, with the open-air treatment and breathing exercises, gives what he considers good results.

103. **Squint.**—Black describes his apparatus consisting of a wooden base supporting an upright. At right angles to the center and top of this upright is attached an arm which can be turned to the right or left at the center of the upright; on the back of this arm a scale of degrees is marked. The light is a long miniature electric lamp that can be flashed on and off with a push button. On the arm is a small marker to attract the patient's attention. The scale is made by extending the radii through the arc of the circle to the arm which forms the tangent, the radius being 60 cm., or the distance of the patient's eyes from the light.

To measure the deviation, the patient is placed in front of the apparatus with the elbows resting on the table. The distance of the eyes being regulated by a cord to which is attached a ring which is held on the little finger at the orbital margin; the light being flashed on will at once attract their attention, the position of the corneal reflex is noted in the fixing eye and the patient directed to look at the marker, which is moved to or from the upright until the reflex of the deviating eye is relatively in the same position as it was in the fixing eye when looking at the light; by directing the patient to look first at the light and then at the marker, the reflex can be located exactly in the deviating eye and the degree read off on the back of the arm opposite the position of the marker. With small children or babies, the mother or nurse holds them on the lap with the child's head between the hands; a match is lighted and held over the marker, at which the baby will naturally look; this is moved back and forth, the electric light being flashed on and off from time to time until the corneal reflex is in relatively the same position in the deviating eye. The light can be flashed on and off so quickly that the child can not have time to change its gaze from the lighted match to the electric light.

104. **Correction of Myopia.**—Friedmann formerly used to consider full correction dangerous, but he thinks if it does no harm it has great advantages by giving the myope the natural conditions of accommodation and convergence. He gives a letter from Knapp, who considers it the correct treatment in good vision with no dangerous fundus changes.

105. **Correction of Myopia.**—Jackson gives statistics showing the advantages, as he considers them, of full correction. He knows of no statistics so extensive as these which can be said to point to any different conclusion. There are exceptions to the rule of full correction, but they do not detract from its importance.

110.—See abstract in THE JOURNAL of October 4, p. 855.

111.—Ibid.

113. **Epidermolysis Bullosa Hereditaria.**—Wende reports a case of this condition closely resembling in its type the so-called dystrophic variety, and having some unique features. He thinks in the recognition of this group we should consider the chief symptom involved, that of the bulla formation, not forgetting the fact that epidermolysis bullosa, regardless of any subsequent alteration that may appear in any particular case, should always be so classified. He thinks the general etiologic factors at work in these cases are possibly a hereditary or congenital lack of resistance in the skin in connection with poor trophic innervation. There is probably an increased irritability of afferent nerve endings in the skin, by means of which irritation, which ordinarily would have no effect, causes a local vaso-dilator influence through the vasomotor system.

114. **Exfoliative Dermatitis.**—Bowen reports four cases, each of a different type, the first of recurrent desquamative scarlatiniform erythema, which has been abundantly described. The second one was of the type of dermatitis exfoliativa of Wilson. Not so very distinct from this form or type he notices a third case, that of the common secondary exfoliative erythema

developing from psoriasis, eczema, lichen planus, etc., or caused by drugs. Of these he has never known one to have a fatal termination. The last was a case of pityriasis rubra ending fatally and uncomplicated with any tuberculous symptoms.

123.—See editorial in THE JOURNAL of November 22, p. 1327.

124. **Chorditis Cantorum.**—Singers' nodes, according to Miller, are due to overstrain of the chords. He illustrates his theory by anatomic descriptions. He finds quick restoration in every case where the proper mental picture of the vocal effort is given to the patient, with a consequent relaxation of the overexerted parts and strengthening of the normal voice supports. The details of his paper are too elaborate to be given here.

125. **Benign Tumors of the Naso-Pharynx.**—The various types of these growths are described by Quinlan with their treatment. He thinks that every case should be treated individually. The forceps which has been in general vogue in the past is now being distrusted on account of the accidents which have followed its use. Experience has been somewhat similar with the hot snare. We do not read of so many cures by the galvanocaustic loop as in former years. He is inclined to think the cold snare the best procedure in the vast majority of selected cases. Certain growths, of course, are beyond its reach, but no rules can be laid down in this respect. The typical fibromata can often be removed, while growths which are intrinsically much less formidable are sometimes unapproachable by this means. A certain minority of nasopharyngeal growths can only be removed by the most radical procedures, such as splitting the intervening hard and soft parts and suturing the flaps after the extirpation of the tumors.

127. **Laryngeal Stenosis.**—Two cases of this condition are reported by Clark. In the first case he dilated the stenosis with a female urethral sound, which he thinks is a very admirable means in such cases. In the second case the repeated contraction of the cicatricial tissue rendered the use of the intubation tube almost imperative for a long time, and he almost despaired of getting along without it. He finally succeeded by passing tubes of different sizes and left the patient in a comparatively comfortable position as regards breathing, though the vocal function was impaired.

131.—See editorial in THE JOURNAL of November 22, p. 1327.

135. **Cancer.**—The parasitic theory of cancer is discussed by Robin, who is not willing to go quite as far as the Harvard Commission in their conclusions. He is willing to admit that protozoön-like types are found in cancer, but this does not establish their interrelation. It is readily conceived how parasites may contaminate tumors which are exposed to the external air, and exist as a secondary invasion and perhaps accelerate the growth and cachexia.

136. **Cancer of the Rectum.**—The various methods for operation on cancer of the rectum are described by Gant, who gives in detail the technic. He thinks in certain cases vaginal proctectomy should take precedence over the Kocher and Kraske operation, as in all cases in which the growth is so situated it can be removed from the front.

137. **Roentgen Rays in Cancer.**—From clinical experience up to the present time, Leonard considers the following conclusions justified: 1. We have a more potent remedial agent than any other in the Roentgen rays, but they can not be considered as a cure-all, and should not be employed to supersede operation, but to supplement it. The best interests of the patient will be served by early diagnosis, early radical removal by surgical intervention, and subsequent thorough treatment of the infected area by the Roentgen method. Inoperable cases and superficial growths not liable to produce death or give rise to metatases, and also recurrences, may reasonably be submitted to Roentgen treatment previous to operation. It should only be employed by practitioners qualified by education and experience to judge of the therapeutic effects and estimate the proper dosage. We need wider clinical experience before we can have an effective application of this remedy in deep-seated malignant disease.

138. **Mercuric Cataphoresis in Cancer.**—Massey describes his method, which has been published elsewhere, consisting in injection of mercury in the form of ordinary quicksilver into the growth or held within it in union, with a solid electrode of zinc, and being made the anode of the current is attacked by the electrolytic process and the resulting nascent compound, a soluble oxychlorid of mercury and zinc, is diffused throughout the growth rapidly, the patient being under a local or general anesthetic. The result is that the radiating chemicals unite with the protoplasm of the cells and other elements of the growth, producing a rapidly enlarging area of necrosis, which is most effective in the degenerating tissues. The opposite pole being on a distant part of the body, the lines of diffusion will tend to follow the so-called roots of the cancer to their extremities. He finds a current strength of 500 to 800 milliamperes, more or less, applied for sixty minutes, most effective, and considers that the method has decided advantages over the knife. Its disadvantages are the cost of the paraphernalia and the necessity of a knowledge of medical electrophysics in the operator. It also has disadvantages as compared with the *x*-ray in requiring anesthesia and of producing a wound at the site of the growth, but this is readily curable, differing in this respect from the *x*-ray wounds. The knife is still preferable in operative growths of internal organs capable of removal, and highly malignant sarcomas of the extremities in which it is possible to amputate the limb far above the site of the disease, but the employment of cataphoresis is better where it is inadvisable to remove extensive contiguous tracts, which can also be sterilized by this method. The *x*-ray should be used in external growths too extensive for quick eradication by mercuric cataphoresis, in inoperable growths within the chest or abdomen and in general carcinomatosis where other methods fail. He has employed the method in 60 unselected cases where it was begun generally as a forlorn hope, and has had 18 cures, 7 of them having passed the three-year limit.

144.—See editorial in THE JOURNAL of November 22, p. 1327.

149. **Treatment of Pneumonia.**—The principal points made by Thomas are the reduction of blood pressure and fever during the first forty-eight hours if possible. In the second stage where danger begins, he would use external applications so far as possible in preference to morphine, etc., for the pain, expectorants if indicated, conserving the patient's strength with good nutritious diet and the best hygienic surroundings and especially look for and guard against heart failure. The larger part of his article is an argument for heart stimulation by strychnia, nitroglycerin, etc.

154.—See editorial in THE JOURNAL of November 22, p. 1327.

159.—See abstract in THE JOURNAL of November 29, p. 1411.

172. **Tubercular Joint Disease.**—The recommendation by some authorities of traction in tubercular joint disease is questioned by Tracy, who believes that effective fixation with a wood plastic splint is much better treatment. He reports cases. The method, he says, is as simple as it is effective.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), November 22.

1 *Lunacy and the Law. William R. Gowers.
2 *Cases of Acute Disease of the Nervous System. James Barr.
3 Hereditary Cerebellar Ataxy in Two Brothers. J. Mitchell Clarke.
4 Case of Hereditary or Huntingdon's Chorea. F. W. Jollye.
5 A Case of Friedreich's Ataxia. R. S. C. Edelston.
6 Case of Complete Paraplegia Successfully Treated by Forcible Extension of the Spine. T. Outterson Wood and James Cantlie.
7 Three Cases of Paralysis of Muscles of the Hand and Forearm. Walter Broadbent.
8 A Rare Form of Muscular Dystrophy. James E. H. Sawyer.
9 Case of Motor Aphasia, with Hemianesthesia, but No Hemiplegia. William B. Bennett.
10 Treatment of Tuberculosis in Hospitals and Infirmaries. (Concluded.)

The Lancet (London), November 22.

11 *Lunacy and the Law. William R. Gowers.
12 *Some Further Points Relating to Varicose Veins of the Lower Limbs. William H. Bennett.

13 *The Natural History and Pathology of Pneumonia. J. W. Washbourn.
14 *Pure Urea in the Treatment of Chronic Pulmonary Tuberculosis; With a Note on the Action of Urea. S. Vere Pearson.
15 A Case of Malignant Disease of the Pylorus Occurring in a Young Man Aged 19 Years. G. Paul Anning.
16 *Transplantation by Exchange (a Sequel). C. R. B. Keetley.
17 A Case of Stricture of the Urethra. William Sang.

Journal of Tropical Medicine (London), November 15.

18 *Notes of a Tour in the North Canara District of India in Search of Mosquitoes. (Continued.) E. H. Aitken.
19 *Sleeping Sickness: A Suggestion. Alexander Crombie.

Annales de Dermatologie (Paris), September.

20 *Pyodermite serpigineuse lineaire. W. Dubreuilh.
21 Contribution à l'étude des dermatoses vermineuses superficielles (myases). F. Balzer and M. Schimpff.
22 Review of II International Conference for Prophylaxis of Syphilis and Venereal Diseases, Brussels, September 1-6.

Bulletin de l'Academie de Medecine (Paris), November 4.

23 *Le Choléra d'Egypte de 1902. A. Proust. (Commenced in preceding number.)
24 Dosage de l'oxyde de carbone et de l'acide carbonique dans l'air vicié. F. Jean.

Centralblatt f. Bakteriologie (Jena), xxxii.

25 (No. 2.) Studien zur Biologie des Influenza-Bacillus. A. Chon and W. v. Preyss.
26 *Digestion of Bacteria. R. Turro.—Zur Bakterienverdauung.
27 Zur Kenntniss der Trematoden-Fauna des Triester Hafens. A. Looss.
28 Die Anoplocephaliden der Vögel (of birds). O. Fuhrmann.
29 *Der gegenwärtige Stand der Lehre von den Cytolisenen und die cytolitische Theorie der Immunität. E. S. London. (Commenced in No. 1.)
30 (No. 3.) *Resistance of Plague Bacilli to Cold. C. Toyama.—Ueber die Wiederstandsfähigkeit der Pestbacillen gegen die Winterkälte in Tokyo.
31 *The Composition of the Tubercle Bacilli Derived from Various Animals. E. A. de Schweinitz and M. Dorset.
32 Ueber eine neue Bacterien-Art im Sputum. L. Jehle.
33 Toxic Paralyses of Anthrax Nature. A. Sclavo.—Ueber die toxischen Lähmungen carbunculöser (milzbrandiger) Natur.
34 Die Leucocytose nach Digitalis-Gebrauch bei Pneumonie-Infection. A. Borini.
35 *Cell Inclusions, etc., in Vaccine Foci Inoculated in Cornea. C. Gorini.—Ueber die bei den Hornhautvaccineherden vorkommenden Zelleinschlüsse. (Commenced in No. 1.)
36 Untersuchungen über die keimtödtende und entwickelungshemmende Wirkung des Lysoforms. O. Seydewitz.
37 *Medicated Steam Sterilization. K. Kokubo.—Die combinierte Wirkung chem. Desinfections-Mittel und heisser Wasserdämpfe.
38 (No. 4.) Ueber die Bedeutung der Calcium-Salze für Bacterien. G. Gabritschewsky.
39 The Influence of Alcoholic Intoxication upon Certain Factors Concerned in the Phenomenon of Hemolysis. A. C. Abbott and D. H. Bergey.
40 *Leuconostoc hominis und seine Rolle bei den acuten exanthematischen Krankheiten (scarlet fever, measles, spotted fever). Hlava.
41 Diplococcus im Sputum als Antagonist der pyogenen Staphylo- und Streptococcen. D. Gromakowsky.
42 Vital Conditions for Agent of Tuberculosis in Butter. A. Pettersson.—Ueber die Lebensbedingungen des Tub.-Erregers in der Salz-Butter.
43 Bothriocephalus latus Brems. chez le chat (in the cat). B. Galli-Vallerio.
44 Ueber Immunisierungs-Versuch mit dem Kraus'schen Bacillus der Kaninchen- (rabbit) Influenza. E. Jacobitz.
45 Färbe- (staining) Methoden für Malaria-Parasiten. G. Giemsa.
46 *Ein Beitrag zur Anwendung des Formaldehyd-Gases zur Desinfection. O. Voges.
47 (No. 5.) The Most Important Methods of Staining Bacteria in Their Action on the Membrane, the Protoplast and the "Inclusions" of the Bacterial Cell. A. Grimme (Marburg).—Die wichtigsten Methoden der Bacterienfärbung in ihrer Wirkung auf die Membran, den Protoplasten and der Einschlüsse der Bacterienzellen. (Commenced in No. 1. Colored plates.)
48 Ueber eine neue Sarcina die im Eiter gonococcenähnliche Degenerations-Formen zeigt. J. Nagano.
49 Ueber eine neue Infections-Krankheit bei Haustieren (domestic animals). A. Anjeszky.
50 Sur la pénetration des femelles d'oxyures vermiculares à travers les parois de l'intestin. P. Vuillemin.
51 Die Antikörper (antibodies) des Blut-Serums mit Blastomyceten-behandelter Tiere. F. Sanfelice.
52 *Study of Consecutive Immunisations. L. Verney.—Ueber die gegenseitige Wirkung aufeinanderfolgender Immunisierungen im tierischen Organismus. (Commenced in No. 4.)
53 The Antihemolytic Action of Blood Sera, Milk and Cholesterin upon Agaricin, Saponin and Tetanolysin, Together with Observations upon the Agglutination of Hardened Red Corpuscles. H. Noguchi.
54 Improved Technic for Bacteriologic Research. T. Kasparek (Prague). — Sterilisierungsbüchsen; Heizung der Brutschränke mit Auer-Brennern; electrischer Heiszwasser-trichter; ein neuer Warmwasser-apparat und eine Methode zur bacteriologischer Wasser-Untersuchung.
55 Zur Züchtung (cultivation) des Pneumococcus. F. Rymowitsch.
56 Zur Cultivierung des Microsporon furfur und des Microsporon minutissimum. H. Vorner.
57 Ueber einen bequemen Sections- und Operations-Tisch (table) für Laboratoriums-Versuchs-Tieren (animals). Czaplewski (Cologne).

Deutsche Med. Wochenschrift (Leipsic), November 6 and 13.

58 (No. 45.) Transmissibility of Bovine Tuberculosis to Man. Köhler.—Ueber den Stand der Frage von der Uebertragbarkeit der Rindertuberkulose auf den Menschen.
59 *Ueber weitere Anwendung der Präcipitine. A. Schütze.
60 *Enlarged Thymus and Sudden Death. M. Penkert.—Ueber die Beziehungen der vergrösserten Thymusdrüse zum plötzlichen Tode.
61 *Fate of a Cancroin-Treated Carcinoma. V. Pulawski.—Ueber das weitere Schicksal einer Esophagus-Krebskranken, welche mit Cancroin Adamkiewicz behandelt wurde.
62 Fall von Uterus-Ruptur intra partum ohne (without) Operation geheilt. F. Mendel.
63 Zur Prophylaxe der Geschlechtskrankheiten (venereal diseases). E. Schultze.
64 *Zur conservativen Behandlung des Entropiums. E. Oppenheimer.
65 Summary of International Tuberculosis Conference, Berlin, October 22-26.
66 (No. 46.) *Ueber Immunisirung mit Diphtheriebacillen. A. Lipstein.
67 *Cast for Fractures of Upper Arm and Shoulder. E. Heller.—Oberarm- und Schultergelenkverband.
68 *Die Erkennung (recognition) der fetalen Syphilis. R. Hecker. (Commenced in No. 45.)
69 *Cholelithiasis und Pankreas-Erkrankungen. P. Fuchs.
70 Assumed Harmlessness of Boric Acid in Meats. F. Hofmann.—Die angebliche Unschädlichkeit von Borsäure im Fleisch.
71 Transactions of Prussian Medical Chambers. Henius.—Verhandlungen der preussischen Aerztekammern. Zweiter Bericht für 1902.

Monatsschrift f. Geb. und Gyn. (Berlin), xvi, 3.

72 Ueber den Bau (structure) der Nabelgefässe (umbilical vessels). J. Bondi.
73 Ueber Complicationen der Geburt (delivery) mit Ovarial-Tumoren. Ovariotomie abd. inter partum, mit nachfolgender Entbindung (delivery) per vias naturales. M. Semon.
74 *Zur Technik der transperitonealen Exstirpation des carc. Uterus mit bes. Berücksichtigung der Ureter-Deckung (covering) und der Drainage der Becken-Höhle. J. A. Amann, Jr.
75 *Klin. und anat. Beiträge zur Genital-Tuberkulose des Weibs (woman). C. Ahlefelder.
76 Ibid. Critical Review of Literature. A. Hartz.
77 Zur Frage der Verwerthbarkeit der Lungenschwimmprobe (floating test) bei Keimgehalt (germs) der Uterus-Höhle. Krönig.
78 *Danger of Infection of Vagina from Bath Water. J. Hertzka.—Ueber das Eindringen von Badewasser in die Scheide von Schwangeren und Gebärenden und die Zweckmässigkeit des Bades bei denselben.
79 Med. Indications for Interruption of Pregnancy. Critical Review. R. Hantke.
80 Recent American Obstetric and Gynecologic Literature. C. S. Bacon.—Bericht über amerik. geb.-gyn. Lit. mit Angabe ihrer Hauptquellen.
81 Midwife Reform. M. Runge.—Ein Wort zur Hebeammenreform.
82 (No. 4.) *Significance of Chills in the Puerperium. C. J. Bucura.—Ueber die Bedeutung des Schüttelfrostes im Wochenbett mit bes. Berücksichtigung der Pyhämie.
83 Zur Kenntniss der path. Anatomie der Placenta. A. Solowij.
84 *Das Verhältniss (relations) der Atmocausis und Zestocausis zur Curettage und ihre Heilfactoren. L. Pincus.
85 Beitrag zur Behandlung der puerperalem Sepsis. Reidhaar.
86 Value of Cryoscopy. P. Mathes.—Was leistet die Methode der Gefrierpunktsbestimmung?
87 Review of Recent Finnish Obstetric-Gynecologic Literature. A. Törngren.

Muenchener Med. Wochenschrift, November 4.

88 (No. 44.) Cell Toxins and Defenses in Human Organism. W. Weichardt.—Ueber Zellgifte und Schutzeinrichtungen im menschlichen Organismus.
89 Zur Kenntniss der hemolytischen Saponin-Wirkung. W. Schanzenbach.
90 *Pleural Effusions in Heart Disease. J. Esser.—Ueber Pleuraergüsse bei Herzkranken.
91 *Ueber parenchymatöse Magenblutungen (hemorrhages from the stomach). E. Moser.
92 *Beitrag zur Pathologie und Therapie der syphilitischen Trachéal-Stenosen. A. Strubell.
93 *Beitrag zur Diagnose der Lungen-Kavernen. H. Cybulski.
94 *Fall von Morphium-Vergiftung im frühesten Kindesalter (morphin poisoning of three weeks' babe).
95 Efficacy of Bloodless Dilation of Phimosis. Graeser.—Zur unblutigen Phimosen-Dehnung.
96 Ueber rhino-pharyngologische Unterrichts- (instruction) Methoden. R. Kafemann.

Therapeutische Monatshefte (Berlin), xvi, 10, October.

97 Die "Erfolge" (successes) des Diphtherie-Heilserums. Kassowitz.
98 *Zur Casuistik der pernasalen und peroralen Tubage. Floren.
99 Ueber den Einfluss (influence) der Somatose auf die Magen-Motilität (motor function of stomach). H. Singer.
100 Breathing Gymnastics. Hoffmann.—Ueber Athmungsgymnastik und ihre Verwerthung.
101 Die Anwendung der Nasen-Douche. A Thost.
102 *Ueber den Werth des Amyloforms (als Ersatz für Iodoform) in der Praxis. A. Gerlach.
103 Zur Behandlung des Aborts (abortion), mit bes. Berücksichtigung der Narcose. A. Keiler.
104 *Fieber und Fieber-Behandlung. Bergel. (Commenced in No. 9.)

Upsala Lakarefor. Forhandlingar, vii, 8.

105 *Can a Tumor in the Spinal Cord Spontaneously Retrogress? S. E. Henschen.—Kan en ryggmärgstumör spontant ga tillbaka?
106 A New Paired Acid in Ox Gall. V. Wahlgren.—Om en ny parad syra i nötkreatursgallan.

107 Study of the Embryonal Development of the Throat. J. A. Hammar.—Bidrag till halsens utvecklingshistoria.
108 Legislation Affecting Arsenic in the Trades. C. T. Mörner.—Nagra ord i fragan om ändring af gällande arsenikstadga.
109 Thermic Sensations Accompanying Application of Constant Test Temperature. K. G. Holm.—Om kvarstaende temperaturförnimmelser vid konstant retningstemperatur.
110 Research on the Secretion of the Human Gall-Bladder. V. Wahlgren.—Undersökning af sekret ur menniskans gallblasa.

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1. **Lunacy and the Law.**—Gowers' address is a criticism of the English law, which, like that in some parts of this country, in its aim to protect the liberty of its citizens, has made it harder for the insane patients and tends to increase the numbers of hopeless cases by requiring commitment to asylums in every case where special treatment is needed, and it is also specially hard on the physicians in the heavy penalties it requires for every case of treatment of uncertified insane. The general result is that the law has to be broken at great risk or the patients suffer. He thinks also that the Lunacy Commission is overworked and should be increased, especially on its medical side. In both of these respects the Scotch law is very much superior to the English.

2. **Acute Nervous Diseases.**—Barr first calls attention to a class of cases which used to be called serous apoplexy, a name which has now gone out of date, but which he would like to see retained. These cases closely resemble cerebral hemorrhage, but the paralysis is rarely so absolute and the onset is more gradual like that of thrombosis, being as it is a serous congestion. These cases also occur in different classes, the apoplectic attacks occur in overfed persons, those with Bright's disease and high blood pressure with atheromatous vessels, while the other type occurs in the underfed and overworked individual with low blood pressure. The treatment of the two conditions is exactly opposite. In the cerebral hemorrhage you must reduce the blood pressure, while in the other you must raise the general blood pressure and increase the velocity of the circulation. The best drugs are caffein and digitalis. The associations and causal conditions should receive attention. A sinapism and fly blister to the nape of the neck may do good. The later treatment consists of mental and bodily rest, good food and a long holiday. A case is reported. He also reports a case of paraplegia with cystitis which had in its symptoms resemblance to Landry's paralysis, but examination of the cerebrospinal fluid showed the presence of staphylococci. It would seem as if the patient's low vitality did not afford sufficient reaction to establish a meningitis, but the toxins had a paralytic effect on the motor centers of the cord. In a severe case of cerebrospinal meningitis in the same ward lumbar puncture showed staphylococci in the cerebrospinal fluid and no other organism. The patient whose case is reported was cured by the prone posture and an ice bag to the spine. His cold extremities were wrapped in cotton-wool, quinin, nitroglycerin and urotropin administered, and the bladder washed out with a chinosol solution for the cystitis. Rest and a liberal diet completed the cure.

11.—See also title 1, above.

12. **Varicose Veins.**—Varix is classed under three heads by Bennett in this address: 1. Congenital; 2, acquired; 3, intermediate. The first includes the vast majority of cases, though they may not have the affection noticeable from birth. By acquired varix he understands cases that come on through accident or otherwise, in veins that are primarily normal, but he doubts whether this ever occurs after adult life has been fully reached. He suggests that the tendency to varix is increasing in young girls on account of the habit of heavy physical exercise in the periods of rapid growth. By intermediate varix he means cases where the congenital defect is increased by injury or strain such as might give rise to acquired varix. The localized varices of the limbs are generally arranged in three main areas, along the line of the internal and external saphena veins and along the outer side and back of the thigh. These may exist singly or in combination with each other. The symptoms are largely pain, a feeling of tension and weight, and edema. The worst appearing cases often cause very little trouble. It rarely becomes obvious before puberty and in congenital cases the appearance of the varix is always prior to the occurrence of the symptoms arising from it. In the acquired form, on the other hand, the feeling of discomfort and pain generally precede the physical manifestations and call attention to them. The periods of spontaneous increase usually occur at or soon after puberty, between the ages of 20 and 25, about the ages of 30 and 35 years, and between 45 and 50 years. If it shows no sign of increase at 50 years, it rarely occurs spontaneously afterwards. After 60 years there is a tendency for the normal vessels to diminish in size and trouble rarely arises in connection with these after that age unless from thrombosis, injury or some other similar cause. The treatment is either non-operative or surgical. The first he classes under hygienic, including careful avoidance of constipation, the use of careful feeding, close-fitting, well-ventilated underclothing on the limbs, and avoidance of extremes in temperature in the daily bath. He thinks the tepid bath is better than the very cold one. Manual treatment means massage and this may completely check the varix if applied early enough. The rubbing of the varicose parts with alcohol night and morning is excellent. The method of application is applying it only over the varicose vessels and with only smooth rubbing. During the first part of the massage the limbs should be dependent or flat, and in the second they should be vertical. The association of electricity should be in the form of the electric bath with massage, which is very advantageous, but it is not easily available. The mechanical support he prefers is a well-applied porous bandage; its overuse and misuse is likely to do harm. The operative treatment requires a period of rest after the operation, of at least three weeks before the patient is allowed to make any attempt to walk and at least six weeks or two months before very active exercise is undertaken. He thinks the only way of mitigating the condition is the removal of a portion of the long saphena high up in the thigh, but never below the point in which the large posterior tributary of the inner and back part of the thigh joins the internal saphena. The improvement is more rapid if three inches of the saphena are removed immediately below the knee, but it is not absolutely necessary.

13. **Pneumonia.**—Washbourn's second lecture discusses the virulence of the pneumococci and the observations which he has made in conjunction with Eyre. He finds that the virulence varies within great limits. It is easily lost in artificial cultivation, and if the pneumococci will grow at 20 C. they are usually of only slight virulence. The virulence may be greatly increased by cultivation. It is found that animals immune against one strain of pneumococci are not necessarily immune against another. The pneumococci obtained from the mouths of healthy individuals are of less virulence and less easy to increase than those obtained from pathologic lesions. Immunization against streptococci does not protect, and it appears that the protective substance is manufactured in some organ in the body and thrown into the blood later. Wassermann has brought forward evidence that points to the bone marrow as the seat of the formation of protective substance of immunization. Washbourn and Eyre fail to find any definite relationship between the agglutinative power and the protective action of the different sera. The lecture reviews the results of other investigations in detail.

14. **Tuberculosis.**—Pearson has treated seven consecutive cases with urea according to the method advocated by Harper, and gives the details. He compares these with 100 cases treated otherwise. Of the 7 patients the average gain in weight was 4½ pounds, and the average length of stay in the hospital was three months. Of the 100 patients the average gain was 6¼ pounds in the same period of time. There was, moreover, a decided improvement in the general and physical condition, which was not the case with the 7. Attempts were made to measure the exact urea output, though there were some difficulties in securing this. He concludes that there is no stimulating action from the drug; it appears in no way to improve the pulse, the appetite or general vigor of the patient. He therefore summarizes its therapeutic action as follows:

1. Urea given by the mouth in patients with chronic pulmonary tuberculosis increases the output of the urea; but the total increase in this output does not, as a rule, equal the total quantity administered. 2. Urea acts only to a slight extent as a diuretic; this

action is variable and on the whole untrustworthy. 3. In both the output of urea and the output of urine the effect produced by the administration of urea is more marked at first. After a time the body seems to accustom itself to the intake of urea and tends to return to the normal output. 4. Urea does not act as a cardiac stimulant.

16. **Transplantation by Exchange.**—In the case here reported by Keetley a hairy mole on the left cheek was transferred to the arm in infancy. In placing the infant's arm against its face it was found that the whole skin of the outer side of the upper arm from the shoulder down to the elbow would be required to replace the mole if the latter was cut away and filled in by flap transplantation. The operation chosen, therefore, was to exchange the hairy mole of the face and the smooth white skin of the arm, anchoring, so to speak, the arm to the head with strong sutures, which united the former to the transplanted mole, the two flaps lying with their two surfaces in mutual contact, and helping to keep up each other's warmth and nutrition. The risk of sloughing was diminished and there was no sacrifice of tissue. The case was reported at the time, and now, 15 years later, it is reported again with results. To-day the patient is fairly good-looking, but the hairy mole on the arm has grown considerably, while the face is clear. He adds these points in regard to the technic of such cases of which he has had considerable experience within the last sixteen years:

1. Not only the outline of the flaps but the chief points of suture should be carefully marked before the flaps are cut. 2. The knife used to divide the skin should be sharp. 3. Twelve days are not too long to leave the arm and face in contact. 4. It is neither necessary nor desirable to cover the site of operation with plaster of Paris; on the contrary the plaster bandages should be so applied as to leave it freely accessible and the dressings should be changed occasionally. 5. The stronger sutures should be of silkworm gut. 6. Care should be taken not to leave a fragment of mole behind. Cutting the flaps free is a difficult step in the operation, as they have to be cut where folded, and it is sometimes difficult to get a good view. A sharp knife should be used and a strong light should be thrown into the hollow. At the same time the skin should be carefully swabbed free of blood. 7. It should be made absolutely sure that both flaps are entirely cut through before the arm is allowed to move an inch away from the face. 8. The strappings used should be old-fashioned diachylon and not the irritating plasters often sold on rollers. 9. The iodoform gauze should be well rinsed out in warm sublimate solution 1 to 2000. 10. No drain of any kind should be inserted between the flap and its bed; it is not necessary and may be mischievous.

18. **Mosquitoes.**—Aitken continues his lecture describing the life, habits and peculiarities of the various mosquitoes in the North Canara district of India. He calls attention to the point that too early killing of the mosquitoes may not give a proper idea of their true specific characters. The mosquito does not attain its proper color for some time after emerging from the pupa.

19. **Sleeping Sickness.**—The point made by Crombie in regard to sleeping sickness is the suggestion to look into the deep cervical lymph glands of the neck for the *Filaria perstans*, as being the most likely real seat of the condition. Obstruction of the deep cervical glands, causing obstruction of lymph return from the brain, is especially, according to his idea, responsible for the symptoms in this disorder. He thinks the deep cervical lymphatics are rarely examined in postmortem researches, but reasoning by exclusion seems to narrow down the cause of symptoms to these organs.

20. **Linear Serpiginous Pyodermitis.**—Dubreuilh has observed 6 cases of this affection, in 2 women and 4 men, aged from 16 to 54. The pustulation follows an irregular wavy line. He never saw a line bifurcate, but several lines may radiate from the same point. The hand was affected in 2 cases, the arm once, the back and the axilla twice. The affection lasted from one to three months, not impairing the general health, but accompanied by much pruritus. It has no analogy with "creeping disease" or other affections of the kind that have been described, except its linear progression. Antiseptic treatment proved effective, especially a 1/30 solution of nitrate of silver once a day, supplemented by moist compresses or salves to facilitate removal of the scabs.

23. **Cholera in Egypt in 1902.**—Proust reviews the various epidemics of cholera in Egypt, and remarks that in 1895 the military surveillance of the canal had been suspended which allowed the entrance of cholera in that year. The present epidemic gained entrance by way of the Red Sea. It is to the interest of Europe and America, he proclaims, to prevent this invasion of the Occident by way of the Red Sea. The sanitary supervision of this region should be in the hands of an international committee, uninfluenced by local affiliations. An international sanitary office should be established with headquarters in Europe, where all the sanitary data could be centralized and agents appointed to supervise the execution of the measures directed by the international sanitary conferences. This international board of health would have no executive power, but merely moral influence. No state would like to have its imperfections, its negligences held up to international reprobation. Each one would strive by every means to avoid this and the moral influence of such an international board would soon overcome the resistance or inertia of the countries still most refractory.

26. **Digestion of Bacteria.**—Turro found that juice squeezed from the thyroid, kidney and the muscles of the pig and cow was able to dissolve in one to three days at a temperature of 35 to 38 C., a minimum of 10 per cent. of its weight of a one-day culture of the anthrax bacillus. The addition of 2 per cent. of sodium fluorid did not interfere with the process, but was useful in preventing the development of other bacteria. The white and yolk of egg possess similar digestive powers which increase with time. Older cultures are more resistant.

29. **Present Status of Cytolitic Theory of Immunity.**—London defines the three substances with which the organism is provided as 1, the desmons, the weapons for attack; 2, the alexins, the weapons for destruction, and 3, the antilysins (antitoxins), the weapons for defense. The degree of immunity depends on the quantity and quality of these three groups of substances, and artificial immunization is attained by promoting their production. Desmons can be produced by immunizing the animal with the cellular element in question. Alexins can not be produced in this way, and if they are not present in adequate amounts, the attempt to immunize fails. Antilysins can be artificially produced by injection of the corresponding lysins (toxins). The phagocytic theory and the humoral theory are merging now into what may be called the cytolytic conception of the struggle of the organism against disease.

30. **Resistance of Plague Bacillus to Cold.**—Toyama states that the plague bacilli in his tests did not lose any of their virulence or vitality by exposure to the winter weather at Tokio. The coldest day was four or five degrees below the freezing point. Others kept at ordinary incubator temperature proved to be less virulent by the fifty-sixth day and still less so after eighty-four days.

31. **Tubercle Bacilli from Various Sources.**—The results of De Schweinitz's research indicate the relationship between tubercle bacilli derived from diverse sources. They also emphasize the differences between attenuated and virulent human tubercle bacilli.

35. **Cell Inclusions in Vaccine Foci in Cornea.**—Gorini has long been advocating the biologic test of vaccine virus by inoculations on the cornea. This method of control has numerous advantages, simplicity, rapidity, etc., and also the fact that it determines not only the virulence of the virus, but also the absence of pathogenic germs. In his latest work in this line he has noticed "cell inclusions" similar to those observed in malignant neoplasms.

37. **Medicated Steam Sterilization.**—Kokubo proclaims that the addition of a disinfectant to the fluid materially enhances the sterilizing power of steam. Anthrax bacilli were killed in one minute in a 1 to 3 per cent. concentration of cedarwood oil, creosote, anisol, acetone, formaldehyd, etc.

40. **Leuconostoc Hominis in Exanthematous Diseases.**—Hlava has found the *Leuconostoc hominis* in the necrosed tonsils and in the blood in 21 scarlet fever patients; also in the tonsils, blood, sputum, nasal secretions and lungs in measles (8 cases), and in the tonsils and blood in spotted typhus. It was not pathogenic for animals. It resembles the streptococcus and has probably many times been classed as such, but it usually occurs in pairs or chains, which are enclosed in a kind of sheath. Some of the links also assumed a swollen or lance shape or formed coin rolls. It thrives best on Zopf's bouillon

and saccharose or beet sugar agar. On the latter in Petri dishes it grows projecting in the form of a raspberry above the surface.

46. **Improved Technic for Formaldehyd Disinfection.**—Voges writes from Buenos Ayres that he has solved the problem of disinfecting the goods of passengers on quarantined vessels in an hour and with very little traces of the odor left after disinfection. A vacuum is produced in the chamber in which the goods are placed to be disinfected, and the penetrating and disinfecting power of the formalin is immeasurably enhanced thereby. Every particle of moisture is greedily absorbed in a vacuum and the formalin penetrates rapidly everywhere. An hour's exposure is sufficient, and as much less formalin is required than by the usual methods, the odor is soon dissipated, and the bedding, etc., can be used at once. A new ship is to be constructed at Buenos Ayres for quarantine purposes, in which this principle of formalin disinfection in a vacuum will be applied on a large scale.

52. **Simultaneous Immunization Against Several Infections.**—Verney has been studying the mutual action of consecutive immunization against several infections in turn. He found that it was possible to confer agglutinating power against the typhoid, colon and pyocyaneus bacilli which coexisted simultaneously.

59. **Further Applications of the Biologic Blood Test.**—Schütze announces that it is possible to differentiate the sperma from different animals as well as human sperma by the specific prepared serums of the biologic blood test. It is not necessary to inject the animals with sperma; any organic fluid containing albumin, especially the blood serum, answers the purpose and produces the characteristic and specific reaction. Tests of various yeasts showed that the albuminoid substances in them must be identical, as even this sensitive test failed to disclose any differences between them.

60. **Sudden Death from Enlarged Thymus.**—Grawitz was the first to direct attention to the medicolegal importance of the enlarged thymus as a cause of sudden death. This communication from the pathologic institute of which he has charge describes two new cases. One was an infant who lived only two hours after version and birth, and the other was an apparently healthy six-month-old babe. Both died suddenly, and the only plausible cause of death was a very large thymus gland. In the second case the gland was in two lobes respectively 10 and 8.5 cm. long. The cases confirm the assumption that a large thymus may compress the trachea until it is actually flattened. If the head is thrown back or the throat assumes any unusual position, the trachea becomes completely occluded and suffocation ensues, although the compression heretofore may not have caused any appreciable symptoms. This explains certain sudden deaths in the water, as the head is thrown unusually far back in swimming. This may also cause unusual pressure on the veins of the neck, which in turn is liable to cause congestion of the gland and consequent increase of pressure. Siegel has reported the case of a child who had suffered from dyspnea for several weeks, finally relieved by tracheotomy and the introduction of a long tube extending to the bifurcation of the bronchi. The long canula caused ulceration and on the assumption that the enlarged thymus might be the cause of the dyspnea, the gland was drawn up after opening the mediastinum, and it was sutured to the fascia over the sternum. The child was completely freed from all his troubles.

61. **A Cancer Not Arrested by Cancroin.**—Adamkiewicz published a certain case as cured, but later reports show that the patient died within the year after the malignant disease in the esophagus had been positively diagnosed. The cancer continued its course unaffected by the injections of cancroin, although a total of 40 c.c. were injected in the course of four months, and at first the patient seemed to be relieved.

64. **Conservative Treatment of Entropium.**—When a patient refuses the knife, Oppenheimer has found it possible to cure the entropium by marking on the lower rim of the spectacles the point where pressure can best be applied to the lesion. The optician then fits a small shell along this edge. A pad, shaped something like a stirrup, is screwed into this shell and bent to fit the lesion. By this arrangement the pad can be altered at will; the pressure is applied from the front, and it is impossible for the patient to hurt himself with this little contrivance, which is not at all conspicuous and is simple and inexpensive.

66. **Immunization with Diphtheria Bacilli.**—Lipstein has succeeded in producing a powerful immune serum by inoculating animals with large amounts of living or dead diphtheria bacilli after previously injecting diphtheria antitoxin. The result is an immune serum with great agglutinating power, but this power is most marked on the bacilli of the family from which the serum was derived. He suggests that a certain race of bacilli may possess certain receptors and that the resulting immune serum fits this receptor apparatus better than it fits any other.

67. **Bandage for Upper Arm and Shoulder Fractures.**—Heller's triangle bandage is readily understood from the cuts accompanying the description. It combines a number of advantages, not the least of which is its extreme lightness.

68. **Recognition of Fetal Syphilis.**—Hecker finds that in Hamburg and Munich from 30 to 35 of each thousand births in the five-year periods between 1881 and 1899 were prematurely or stillborn infants. He has dissected and examined under the microscope 62 of these cadavers and found that all but 26 per cent. were syphilitic, but that in more than half of the syphilitic fetuses there was no naked-eye evidence of syphilitic manifestations. All but 17 of the cadavers were macerated when examined, and the liver was so altered that no nuclei would take the stain in 96 per cent.; the pancreas in 84 per cent.; the spleen in 56; the thymus in 32, but the kidneys and bones in only 10 per cent. In 24 per cent. of all, the kidney was the only organ not too much macerated for examination. The frequency with which the various organs participated in the syphilitic manifestations was: kidney, in 90 per cent. of 29 cadavers examined; the spleen in 61 per cent.; the thymus in 50 per cent.; the pancreas in 46 per cent.; the liver in 23 per cent. of 31 examined and the lungs in 17 per cent. The liver, therefore, is not so important for the diagnosis of hereditary lues as generally accepted, while it is the first organ to show the effects of maceration. If there are no naked-eye evidences of syphilis in a suspicious case he advises hardening or making frozen sections of scraps of the kidney, spleen, thymus, pancreas, lung and liver. Examine the kidney first, and the finding of cellular infiltration of the smaller vessels will render further investigation superfluous. The lack of all pathologic phenomena in the scraps named above, investigated in turn, from an unmacerated fetus, excludes syphilis. In a number of cases the macroscopically diagnosed osteochondritis proved to be merely an imperfect technic. Cellular infiltration of the walls and environment of the smallest cortical arteries in the kidneys is pathognomonic for syphilis. It is probably an incipient inflammatory process, the first stage of interstitial inflammation. The blood current becomes slower in these finest arteries and the syphilitic virus has the opportunity to make its influence felt here first of all. Other changes in the kidneys are occasionally noted in the connective tissue and epithelium and the development of the organ may be arrested or exaggerated. Karvonen's "mathematical method" of counting the glomeruli is of little practical value as yet.

69. **Cholelithiasis and Affections of Pancreas.**—Fuchs corroborates Opie's statement in regard to the importance of cholelithiasis as a factor in acute hemorrhagic pancreatitis. He goes still further and incriminates it in the etiology of all affections of the pancreas, especially inflammation with tumefaction, and claims that a clinical diagnosis is possible in all such cases. It is reasonable to suppose that the pancreas is pathologically affected as often as the stomach, liver, gall bladder or intestines, and yet we seldom think of it in formulating a diagnosis, but refer the symptoms to the other organs. Many a so-called catarrhal icterus or nervous gastralgia may in future prove to be some affection of the pancreas. As pancreatitis, with the exception of the acute hemorrhagic form, may be cured by operative measures, the pancreas should be examined from this point of view and the possibility of some

complication on the part of this organ be prominently borne in mind.

74. **Transperitoneal Extirpation of Carcinomatous Uterus and Drainage.**—Amann removes all the connective tissue of the pelvic wall down to the outlet, with the glands. He is careful, however, to guard against interfering with the nourishment of the bladder and ureters, and respects the vesical arteries. In order to secure perfect drainage he works his finger down to the lowest point of the pelvic cavity, and when it can be seen pushing out the lab. majus he substitutes forceps for the finger and incises down on it to make a small opening for a glass or rubber drain, outside the vagina. He leaves this drain a long time, and utilizes it if necessary to irrigate the pelvic cavity. The peritoneum gradually stretches and soon fits against the walls of the pelvis, completely obliterating the cavity.

75. **Genital Tuberculosis in Women.**—Ahlefelder has observed 13 cases; 9 were married women. In all but one the tubes were affected, and all were sterile. Only 4 cases were diagnosed before intervention. Three of the patients have died, one from tubercular meningitis and two from progressing pulmonary tuberculosis. Since the removal of the focus five of the patients have been in the best of health and the others were very much benefited. The improvement in chronic tubercular peritonitis was particularly striking after the laparotomy.

78. **Penetration of Germs into Vagina in Bathing.**—Hertzka reports tests which confirm the danger of infection from this source in the course of obstetric cases. He states that the morbidity at Chrobak's clinic has been less since a bath tub was introduced which is merely a large shallow pan, with walls only 10 cm. high. It slopes toward the center, and as the woman reclines in this pan she is douched from a movable spray nozzle. It is much more convenient for the attendant than the ordinary bath tub, and experience with 1500 parturients has established the advantages of this method of bathing at the close of pregnancy.

82. **Chills in Pyemia.**—Bucura has been studying the material at Chrobak's clinic to determine the prevalence and significance of chills in the puerperium. He finds that 2541 febrile cases were recorded in 28,758 childbirths. Chills were mentioned in 78, but more than five chills never occurred in any except the cases of pyemia. There were 30 cases of septicemia without chills. The mortality of pyemia increased in proportion to the number of chills. Eight to 29 were recorded in the various cases. Only 5 recovered out of the 24 cases of pyemia with chills. Trendelenburg's recent successful treatment of puerperal pyemia by ligation and resection of the thrombosed uterine veins, renders the early diagnosis of pyemia important. (See THE JOURNAL of May 3, 1902, p. 1187.) A series of more than five chills is pathognomonic of puerperal pyemia, although it may occasionally develop without chills. Cases have also been observed at the clinic with lymphothrombosis without thrombophlebitis. The sensorium is rarely affected in pyemia, and the fever is irregular and intermittent, with long intervals sometimes of normal or subnormal temperature. In septicemia it is more continuous and the pulse is frequent and high at first, but soon becomes irregular and small, while the sensorium is seldom normal.

84. **Atmocausis and the Curette.**—A brief, skilful atmocausis or zestocausis is a gentler procedure than a skilful curettement, Pincus asserts. The latter, if repeated many times, will prevent the successful action of steam later. In case an exploratory abrasio discloses merely an atrophied mucosa, atmocausis alone may permanently restore conditions to normal. If the uterus contracts well, but the troubles persist, polypous formations in the fundus or cornu may be positively assumed, and further atmocausis would be injurious. The curette is needed to remove such growths, and the cornu involved should be treated with zestocausis, the cautery inclosed to the tip in a rubber tube. This usually cures all the trouble, but if the menorrhagia continues, atmocausis applied once more, just before menstruation is expected, will complete the cure. This combination of the various methods has proved very successful in his hands. The zestocausis in these conditions fills an urgent need, and may avert the necessity for hysterectomy.

90. **Pleural Effusions in Heart Disease.**—Esser describes the autopsy findings in three cases of myocarditis with large hydrothorax on the right side. In each case the lymph glands on that side were found very much enlarged and indurated. He is convinced that the pleural effusion was not the result of inflammation, but due to mechanical stagnation of the lymph current in consequence of these lesions in the lymph vessels, superposed on the weakness of the lymph-driving heart action.

91. **Parenchymatous Hemorrhage from the Stomach.**—In the case described the symptoms had been pains in the stomach, hyperacidity, signs of spasm of the pylorus and copious vomiting. After several months, gastric hemorrhages appeared and became so threatening that a gastroenterostomy was attempted, but the patient died in a few days. At the autopsy the gastric mucosa was found apparently normal, except for four minute points, at only one of which was there an erosion of the mucosa. Moser reviews five somewhat similar cases reported by Lambotte, and suggests that the stenosis of the pylorus, which was constant in all the cases, may have been an important factor in the etiology of the hemorrhages. Stenosis of the pylorus entails retention of stomach contents and venous hyperemia of the mucosa. The muscular contractions may force blood out of the hyperemic vessels even when they are intact, and is much more liable to do so in the presence of a chronic gastritis. In the case described, lavage of the stomach and administration of sodium bicarbonate probably relieved the hyperacidity and perhaps prevented the development of an ulcer. The pains subsided after this internal treatment was instituted, but it was unable to affect the pyloric stenosis. If the gastroenterostomy had been done earlier, or a pyloroplastic operation, or even mere dilation of the stenosis, the patient, an otherwise robust man of 41, might have been saved.

92. **Syphilitic Stenosis of Trachea.**—In Strubell's patient the stenosis of the trachea was the result of the formation of a band of circumscribed gummatous infiltration of the tracheal wall. A metal sound was introduced daily and the patient finally threw off and coughed up the nodules, with comparative recovery. Strubell attributes this result to the daily dilation with the metal instruments and advocates this procedure in such cases, not resorting to tracheotomy for syphilitic stenosis of the trachea unless absolutely compelled to.

93. **Diagnosis of Lung Cavity.**—Cybulski announces that if the ear is placed close to the wide opened mouth of the subject and he is instructed to breath deeply, a râle is heard in the depths of the lungs, in case there is a cavity, which differs completely from the ordinary moist râles of the air passages. The intensity and character of this râle, as well as its localization in the depths of the lung, will prove a valuable aid in differentiating a cavity in dubious cases.

94. **Morphin Poisoning of a Babe.**—A healthy infant, 24 days old, was given in one dose .007 gm. morphin. It caused clonic and tonic convulsions such as are observed in the lower animals, with other alarming symptoms. The physician did not arrive for three hours and deemed it too late then for lavage of the stomach, but managed to administer calomel, and inject saline solution subcutaneously and by the rectum. During the intervals between the convulsions the infant presented the appearance of asphyxia neonatorum. Artificial respiration was resorted to and kept up for six or seven hours during the first fourteen, supplemented by massage of the heart and hot baths during the convulsions. Dipping the child in water of about 44 C. induced a reflex respiration every time. The infant was cold and clammy and was rubbed with hot cloths during the intervals for thirty hours. No urine nor feces were passed, but with a catheter about 120 c.c. of very albuminous urine were drawn. By the twenty-sixth hour the child took a bottle of milk, and this was followed by spontaneous evacuation of urine and feces, after which recovery rapidly progressed. By the end of twenty-six more hours the babe showed scarcely a trace of its experience. No atropin was given as Katzenstein is inclined to believe that the instances of recovery after

atropin were all mild cases which would have recovered without it. It was impossible also to determine the dose for such a young child.

98. **Benefits of Per Oral Intubation.**—A dozen cases are described out of the extensive experience at Cassel with the flexible tracheal tube which extends a foot or so beyond the mouth or is brought out through the nose. It is particularly useful in chloroform narcosis as the anesthetic can be administered through it without coming in contact with the sensitive regions in the throat which cause the dangerous reflexes. In a number of the operations commenced without it, alarming symptoms were promptly dispelled by the introduction of the tube. Respiration and narcosis proceed simply and regularly, while the throat around the tube can be packed with gauze and thus all danger of the aspiration of blood and scraps be prevented in operating on the throat. The tamponing also prevents all hemorrhage, and vomiting and retching is impossible, as the rima glottidis is unable to close. One patient was suffocating from spasmodic contraction of the glottis and accumulation of phlegm below, but all the symptoms vanished after the tube had been inserted and 150 c.c. of phlegm coughed up through it. Pernasal intubation is preferable for operations on the jaws as the tube does not touch the tongue.

102. **Amyloform as Substitute for Iodoform.**—Gerlach has been using amyloform in the place of iodoform during the last two years with perfect satisfaction. He says it is absolutely non-toxic, odorless, and it can be heated to 180 C. without altering its properties.

104. **Fever and Its Treatment.**—Fever, Bergel proclaims, is merely one symptom of the infection and not the most serious. The febrile phenomena are not the consequences of the higher temperature, but are the direct results of the infection. The influence of the infection on the heart and vessels, which we can watch by the behavior of the pulse, is of far more importance than the temperature, and does not necessarily parallel it. Nature strives to conquer the infection by leucocytosis, and as cold water and hydrotherapeutic measures have proved themselves effective in promoting leucocytosis and oxidating processes we can reinforce Nature's efforts with them. The withdrawal of heat is merely a subordinate factor in the benefit derived from baths in infectious diseases, Abundance of nourishing food is an extremely important aid and a slight rise of temperature after a meal is not pathologic under these circumstances. Fresh air, sunshine and the general comfort of the patient are indispensable factors in the treatment of febrile infection.

105. **Can a Tumor in Spinal Cord Spontaneously Retrogress?**—Henschen gives the detailed history of a case which seems to answer this question in the affirmative. A middle-aged workingman free from venereal antecedents but exhibiting numerous neurofibromata for nearly twenty years, gradually developed symptoms of a tumor in the spinal cord. In the course of a year he became completely helpless, unable to move himself even in bed, and suffered from severe cramps and other pains. This condition continued unchanged for more than a year, when he noticed that certain vertebræ were less painful than previously, the deafness on the left side gradually subsided and also the paralysis. The stools became normal and the patient was finally dismissed from the hospital at his request, and was able to walk to the station carrying his handbag, a ten-minute walk. News from him six years later confirm his recovery and that he has no indications of paralysis, and had long been at work on heavy stones. The most interesting features of the case were the multiple peripheral neuromata, transient pains and tenderness in the lumbar vertebræ, which finally subsided, and the pains in the hip. Also the girdle sensations and the simultaneous appearance of tenderness in the back. Also the areas of anesthesia which extended from the sixth interspace down over the trunk, and the deafness on the left side which subsided spontaneously later, as also the deviation of the tongue to the left. Several tumors on the arm were extirpated during the stay in the hospital. They proved to be soft fibromata, intimately connected with some small and intact nerve ramification. The severe and prolonged pains that tormented the patient and his complete helplessness early raised the question as to operative intervention. The patient himself begged for it, but it was postponed from time to time because the indications suggested the possibility of more than one intraspinal tumor, and because of the liability to the development of new tumors as the peripheral neuromata displayed such a constant tendency to increase in size and numbers. This possibility was sustained by the fact that at the sixth interspace a stripe of anesthesia was observed which might have been ascribed to a small tumor compressing the cord at the corresponding point. The medicines given included bismuth, antifebrin, and potassium iodid, with baths, massage, electricity and Ems water. During the twenty years that the patient had noticed his neuromata, none of them had retrogressed. The only explanation of the retrogression of the spinal symptoms is that the soft fibrous tumor tissue must have retracted and fatty degeneration developed, thus relieving the pressure on the nerves. Henschen has been unable to find a similar case in the literature.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PATHOLOGY AND DIFFERENTIAL DIAGNOSIS OF INFECTIOUS DISEASES OF ANIMALS. By Veranus Alva Moore, B.S., M.D., Professor of Comparative Pathology, Bacteriology and Meat Inspection, New York State Veterinary College, Cornell University, Ithaca, N. Y. With an Introduction by Daniel Elmer Salmon, D.V.M., Chief of the Bureau of Animal Industry, United States Department of Agriculture. Illustrated. Cloth. Pp. 380. Ithaca, N. Y.: Taylor & Carpenter. 1902.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Vol. V. Illustrated by Chromolithographs and 576 Half-tone and Wood Engravings. Cloth. Pp. 873. Price, $7.00. New York: Wm. Wood & Co. 1902.

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY FOUNDED ON GRAY AND GERRISH: By William T. Eckley, M.D., Professor of Anatomy, and Corinne B. Eckley, Demonstrator of Anatomy in the Medical and Dental Departments of the University of Illinois. Illustrated with 220 Engravings, 116 of Which Are Colored. Cloth. Pp. 400. Price, $3.50 net. Philadelphia and New York: Lea Brothers & Co.

CANCER OF THE UTERUS. A Clinical Monograph on Its Diagnosis and Treatment with the After-Results in 73 Cases Treated by Radical Operation. By Arthur H. N. Lewers, M.D. Lond., F.R.C.P. Lond., Obstetric Physician to the London Hospital. With 51 Original Illustrations and 3 Colored Plates. Cloth. Pp. 328. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

DISEASES OF THE SKIN. (Lea's Series of Medical Epitomes.) A Manual for the Use of Students and Practitioners. By Alfred Schalek, M.D., of Rush Medical College, Chicago. Series Edited by V. C. Pedersen, A.M., M.D. With 34 Illustrations. Cloth. Pp. 225. Price, $1.00, net. Philadelphia and New York: Lea Brothers & Co. 1902.

HEATH'S PRACTICAL ANATOMY. A Manual of Dissections. Ninth Edition. Edited by J. Ernest Lane, F.R.C.S., Surgeon and Lecturer on Anatomy at St. Mary's Hospital. With 321 Engravings on Wood, of Which 32 Are Colored. Cloth. Pp. 696. Price, $4.25 net. Philadelphia: P. Blakiston's Son & Co. 1902.

OBSTINATE HICCOUGH. The Physiology, Pathology and Treatment Based on a Collection of Over One Hundred and Fifty Cases from British and Foreign Works. By L. F. B. Knuthsen, M.D. Edin. Cloth. Pp. 169. Price, $2.40 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co.

LECTURES ON DISEASES OF THE STOMACH. By J. M. G. Carter, M.A., M.D., Sc.D., Ph.D., Professor of Clinical and Preventive Medicine in the College of Medicine, University of Illinois. Paper. Pp. 168. St. Louis: Fortnightly Press Co. 1902.

ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF LOUISVILLE, KY., for the Fiscal Year Ending Aug. 31, 1902. M. K. Allen, M.D., Health Officer, Louisville, Ky. Paper. Pp. 68. Louisville: Bradley & Gilbert Co.

TRANSACTIONS OF THE INDIANA STATE MEDICAL SOCIETY. 1902. Fifty-third Annual Session, Held in Evansville, Ind., May 22 and 23, 1902. Cloth. Pp. 562. Indianapolis: Wm. B. Burford. 1902.

THE MIND OF MAN. A Text-Book of Psychology. By Gustav Spiller. Cloth. Pp. 552. Price, $2.75 net. London: Swan Sonnenschein & Co., Ltd. New York: The Macmillan Co. 1902.

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BIOLOGICAL LABORATORY METHODS. By P. H. Mell, Ph.D., Director of Alabama Experiment Station. Cloth. Pp. 321. Price, $1.60. New York: The Macmillan Co. 1902.

TRANSACTIONS OF THE MAINE MEDICAL ASSOCIATION. 1902. Vol. XIV. Part II. Paper. Pp. 455. Portland: Stephen Berry, Printer. 1902.

SIXTH ANNUAL REPORT OF THE STATE BOARD OF MEDICAL REGISTRATION AND EXAMINATION OF OHIO. 1901. Paper. Pp. 69.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department of the U. S. A., under orders from the Adjutant-General's Office, Washington, D. S., from Nov. 21 to Nov. 27, 1902, inclusive:

Arthur, William H., major and surgeon, U. S. A., having reported in person in this city to the Surgeon-General of the Army, in compliance with orders heretofore issued, will proceed to New York City, and assume the duties of attending surgeon and examiner of recruits in that city, to relieve First Lieut. Theodore C. Lyster, asst.-surgeon, U. S. A.

Allen, Ira A., captain and asst.-surgeon, U. S. V., now serving in the Division of the Philippines, is honorably discharged from the service of the United States, to take effect Nov. 25, 1902, his services being no longer required.

Black, Allen J., captain and asst.-surgeon, U. S. V., as Capt. Allen, above.

Bowen, Edward N., captain and asst.-surgeon, U. S. V., as Capt. Allen, above, to take effect Nov. 24, 1902.

Boyd, Robert, captain and asst.-surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Dec. 18, 1902, his services being no longer required.

Borden, William C., major and surgeon, U. S. A., is detailed to represent the Medical Department of the Army at the third annual meeting of the American Roentgen Ray Society, to be held at Chicago, Dec. 10 to 11, 1902. Major Borden will proceed to Chicago in time to reach that place on or before Dec. 10, 1902, and on the adjournment of the society, will return to his proper station.

Birmingham, Henry P., major and surgeon, U. S. A., is relieved from duty at Fort Leavenworth, Kan., to take effect on the arrival at that post of Lieut.-Col. John Van R. Hoff, deputy surgeon-general, U. S. A., and will then proceed to Washington Barracks, D. C., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the East, to relieve Capt. John H. Stone, asst.-surgeon, U. S. A.

Chaffee, Jerome S., first lieut. and asst.-surgeon, U. S. A., is relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., to take effect on the arrival at the hospital of Contract Surgeon James C. Minor, U. S. A., and will then proceed to Plattsburgh Barracks, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

Clausius Max F., contract surgeon, U. S. A., is relieved from duty at Fort Huachuca, Ariz., and will proceed to his home, Barrington, Ill., and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Lyster, Theodore C., first lieut. and asst.-surgeon, U. S. A., on being relieved from duty in New York City will proceed to Fort Schuyler, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

Minor, James C., contract surgeon, U. S. A., now at Hot Springs, Ark., will report in person to the commanding officer of the Army and Navy General Hospital at that place, for duty.

Phillips, John L., major and surgeon, U. S. A., having reported his arrival at Governor's Island, New York, in compliance with orders heretofore issued, will report in person to the commanding officer, Fort Columbus, N. Y., for duty at that post and by letter to the commanding general, Department of the East, to relieve Major William H. Corbusier, surgeon, U. S. A.

Major Corbusier, on being thus relieved will proceed to Fort D. A. Russell, Wyoming, and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of Colorado, to relieve Capt. William F. Lewis, asst.-surgeon, U. S. A.

Capt. Lewis, on being thus relieved, will proceed to San Francisco, and report in person to the commanding general, Department of California, for transportation to the Philippine Islands, where, on arrival, he will report in person to the commanding general, Division of the Philippines for assignment to duty.

Repetti, John J., captain and asst.-surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Dec. 31, 1902, his services being no longer required. He will proceed to his home.

Rutherford, Henry H., first lieut. and asst.-surgeon, U. S. A., having completed the duty for which he was ordered to this city by Special Orders, No. 259, Nov. 17, 1902, Department of California, will return to his proper station.

Rutherford, Henry H., first lieutenant and asst.-surgeon, has been granted an extension of leave for one month.

Strong, Richard P., first lieut. and asst.-surgeon, U. S. A., is relieved from duty in the Division of the Philippines, and will repair to this city and report in person to the Surgeon-General of the Army for duty in his office.

Stark, Alexander N., captain, and asst.-surgeon, U. S. A., is detailed to represent the Medical Department of the Army at the annual meeting of the American Public Health Association, to be held in the city of New Orleans, La., Dec. 8 to 12, 1902, and will proceed via Washington, D. C., to New Orleans in time to reach the latter place on or before December 8, 1902, reporting en route to the Surgeon-General of the Army for conference. On the adjournment of the association Capt. Stark will return to his proper station at West Point, New York.

Stone, John H., captain and asst.-surgeon, U. S. A., on being relieved from duty in the Department of the East, will proceed to Fort Leavenworth, Kan., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Missouri.

Truby, Albert E., first lieut. and asst.-surgeon, U. S. A., is relieved from further duty at the U. S. General Hospital, Washington Barracks, D. C., and will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for duty, to relieve First Lieut. James R. Church, asst.-surgeon, U. S. A., from temporary duty at that place.

Lieut. Church, on being thus relieved, will return to his proper station at the U. S. General Hospital, Washington Barracks, D. C.

The following named officers, now serving in the Division of the Philippines, are honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 24, 1902, their services being no longer required:

Maj. John R. Hereford, surgeon, U. S. V.; Maj. Samuel C. de Krafft, surgeon, U. S. V.; Capt. Bruce Ffoulkes, asst.-surgeon, U. S. V.; Capt. Waller H. Dade, asst.-surgeon, U. S. V., Capt. William H. Tukey, asst.-surgeon, U. S. V.; Capt. George H. Jones, asst.-surgeon, U. S. V.; Capt. Ira Ayer, asst.-surgeon, U. S. V.; Capt. Wilson Murray, asst.-surgeon, U. S. V.; Capt. Julius A. Escobar, asst.-surgeon. U. S. V.; Capt. Milton Vaughn, asst.-surgeon, U. S. V.; Capt. William O. Cutliffe, asst.-surgeon, U. S. V.; Capt. Frank L. R. Tetamore, asst.-surgeon, U. S. V.

Van Poole, Gideon McD., first lieut. and asst.-surgeon, U. S. A., is relieved from further temporary duty at the Army and Navy General Hospital, Hot Springs, Ark., and will proceed to Fort Riley, Kan., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Missouri.

The following named officers now serving in the Division of the Philippines are honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 25, 1902, their services being no longer required: Capt. Josiah M. Ward, asst.-surgeon, U. S. V.; Maj. William H. Cook, surgeon, U. S. V.; Capt. Oscar W. Woods, asst.-surgeon, U. S. V.; Capt. Charles H. Stearns, asst.-surgeon, U. S. V.; Capt. Harold L. Coffin, asst.-surgeon, U. S. V.; Capt. Harry H. Eberle, asst.-surgeon, U. S. V.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended November 29:

A. A. Surgeon B. F. Jenness, appointed asst.-surgeon, Nov. 11, 1902.

Pharmacist J. F. Pearson, detached from the Naval Academy and ordered to the Naval Training Station, Newport, R. I.

Surgeon G. P. Lumsden, detached from the *New York* and ordered to the *Hancock*.

P. A. Surgeon E. M. Ship, detached from the Naval Station, Cavite, P. I., and ordered to the *Wilmington*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 29, 1902:

SMALLPOX—UNITED STATES.

California: Sacramento, Nov. 8-15, 2 cases; San Francisco, Nov. 9-16, 3 cases.
Colorado: Denver, Nov. 8-15, 3 cases.
Illinois: Chicago, Nov. 15-22, 6 cases.
Indiana: Nov. 15-22, Indianapolis, 3 cases; Kokomo, 1 case.
Kentucky: Lexington, Nov. 15-22, 1 case.
Maine: Biddeford, Nov. 15-22, 9 cases.
Massachusetts: Nov. 15-22, Boston, 36 cases, 4 deaths; Clinton, 1 case; Weymouth, 1 case.
Michigan: Grand Rapids, Nov. 15-22, 6 cases.
New Hampshire: Nashua, Nov. 15-22, 12 cases.
New Jersey: Camden, Nov. 15-22, 2 cases; Jersey City, Nov. 8-16, 1 case.
New York: New York, Nov. 15-22, 1 case.
Ohio: Cincinnati, Nov. 14-21, 6 cases; Cleveland, Nov. 15-22, 12 cases, 4 deaths; Dayton, Nov. 15-22, 1 case; Hamilton, Nov. 15-22, 4 cases; Toledo, Nov. 8-22, 15 cases.
Pennsylvania: Nov. 15-22, Altoona, 2 cases, 1 death; Erie, 23 cases; Johnstown, 5 cases, 1 death; McKeesport, 4 cases, 1 death; Pittsburg, 46 cases, 7 deaths.
Rhode Island: Providence, Nov. 15-22, 1 case.
South Carolina: Charleston, Nov. 15-22, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 1-8, 17 cases.
Belgium: Ghent, Oct. 18-Nov. 8, 10 deaths.
Brazil: Bahia, Oct. 19-Nov. 1, 6 cases.
Ecuador: Guayaquil, Nov. 1-8, 2 deaths.
Great Britain: Dundee, Nov. 1-8, 2 cases; London, Oct. 25-Nov. 8, 6 cases.
India: Bombay, Oct. 21-28, 3 deaths; Calcutta, Oct. 18-25, 1 death.
Italy: Naples, Nov. 3-10, 4 cases; Palermo, Nov. 1-8, 2 cases.
Mexico: Mexico, Nov. 2-16, 1 case, 2 deaths.
Russia: Odessa, Oct. 18-26, 1 case; St. Petersburg, Oct. 24-Nov. 1, 16 cases, 3 deaths.
Straits Settlements: Singapore, Sept. 27-Oct. 11, 3 deaths.

YELLOW FEVER.

Colombia: Panama, Oct. 10-17, 5 cases.
Costa Rica: Port Limon, Nov. 1-8, 1 case, 1 death.
Ecuador: Guayaquil, Oct. 26-Nov. 8, 3 deaths.
Mexico: Mexico, Nov. 2-16, 2 cases, 1 death; Vera Cruz, Nov. 8-15, 16 cases, 2 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Sept. 28-Oct. 5, 32 cases, 24 deaths; Manila, Oct. 6-12, 23 cases, 13 deaths; Provinces, Sept. 28-Oct. 5, 9,263 cases, 5,276 deaths; Provinces, Oct. 6-12, 5,658 cases, 3,274 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Oct. 26-Nov. 1, 29 cases, 32 deaths.
India: Calcutta, Oct. 18-25, 16 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 15, 1 case, 1 death; Nov. 18, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: Queensland, Brisbane, July 1-31, 1 death.
India: Bombay, Oct. 21-28, 142 deaths; Calcutta, Oct. 18-25, 9 deaths; Karachi, Oct. 19-26, 14 cases, 10 deaths; Madras, Oct. 11-17, 1 death.
Russia: Odessa, June 1-Oct. 26, 49 cases. 17 deaths.

The Newest Medical Books

Lewers.—Cancer of the Uterus: *Its Diagnosis and Treatment.* Illus. 8vo. Cloth, $3.00 *net.*

Phillips. — Spectacles and Eyeglasses: *Their Prescription and Adjustment.* 3d Ed., Rev. and Enl. Illus. 12mo. Cloth, $1.00 *net.*

Oertel.—Medical Microscopy: *A Guide to Diagnosis, Methods, and Technic.* 120 Illus. 12mo. Cloth, $2.00 *net.*

Byford.—Manual of Gynecology. 3d Ed., Rev. and Enl. 363 Illus. 12mo. Cloth, $3.00 *net.*

Reese.—Medical Jurisprudence and Toxicology. 6th. Ed., Rev. *Edited by Henry Leffmann, M.D.* 12mo. 660 pages. Cloth, $3.00 *net.*

Hewlett.—Manual of Bacteriology. 2d Ed., Rev. 8vo. Cloth, $4.00 *net.*

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Cohen.—*System of Physiologic Therapeutics. Vol. V* —**Prophylaxis—Personal Hygiene—Care of the Sick.** *Sold only by Subscription.*

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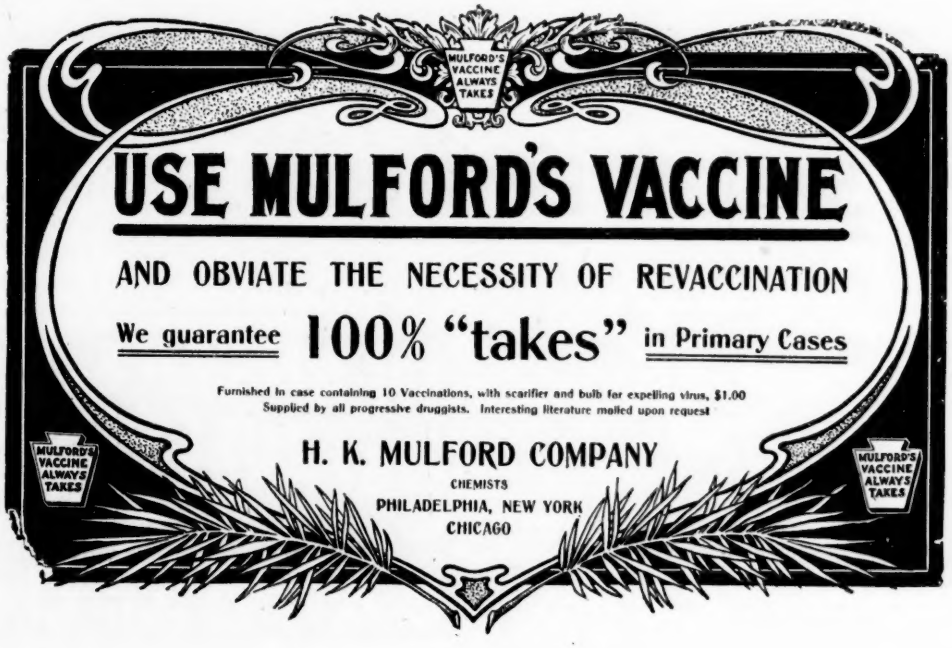
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